ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION
CA-680-06-80
Allotment Name: Rattlesnake Canyon

BARSTOW FIELD OFFICE
DECEMBER 2006

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

A. Summary

The Bureau of Land Management (BLM) proposes to issue a 10-year lease to authorize livestock grazing on the Rattlesnake Canyon Allotment in accordance with laws and policy described in the Purpose and Need section below. The following is a summary of the current situation:

Public land acres in allotment: 27,472
Kind of livestock: cattle / horses
Ephemeral or perennial: perennial/ephemeral
Plan Area: West Mojave
Current authorized use: 1,044 AUMs
Acres Critical Habitat: 0
Identified for Voluntary Relinquishment: No

B. Background

The grazing lease for the Rattlesnake Canyon Allotment (a cow-calf and horse operation) expired at the end of the 1999 grazing year (February 28, 2000). The grazing lease was renewed under the authority of Public Law 106-113. The duration of the new grazing lease renewal was five years and contained the same terms and conditions as the expiring grazing lease. Public Law 106-113 requires compliance with all applicable laws and regulations, which include the National Environmental Policy Act of 1969 (NEPA), and the Endangered Species Act of 1973, as amended (ESA).

On January 29, 2001 BLM and a consortium of environmental groups enter into a stipulated agreement effective on that date (Settlement Agreement) for the management of livestock grazing. The Settlement Agreement prescribed "interim measures" which excluded certain areas of the Rattlesnake Canyon Allotment from cattle grazing in the spring and fall. In addition, the Settlement Agreement placed a cap on stocking rates for the allotment. As amended April 25, 2002, **the Settlement Agreement stipulations remained in effect until the Record of Decision (ROD) for the West Mojave Plan Amendment (WMP) to the CDCA Plan was approved on March 13, 2006.**

On March 1, 2005 the renewed grazing lease for the Rattlesnake Canyon Allotment expired. The lessee applied to renew the lease; livestock grazing continues under provisions of the Administrative Procedures Act (APA).

C. Tiering to Existing Land Use Plan/EIS

This environmental assessment (EA) is tiered to the WMP final environmental impact statement (FEIS) of January 2005, and provides site-specific analysis at the allotment level. Tiering helps focus the EA more sharply on the important issues related to grazing on the allotment while relying on WMP analysis for background. Analysis of environmental issues previously considered and addressed in WMP is incorporated by reference. The site-specific issues

analyzed for this allotment, as well as the issues that are incorporated by reference but will not be analyzed in detail, are identified in Chapter 3 of the EA. A summary of the analysis tiered in this EA is as follows:

1. WMP is an amendment to the California Desert Conservation Area (CDCA) Plan of 1980; the WMP was developed expressly to address special status plant and animal species and to establish conservation strategies for those species within the multiple use context required for the CDCA by section 601 of the Federal Land Management and Policy Act of 1976 (FLPMA).

As part of the CDCA conservation strategy, BLM determined which public lands will be available or unavailable for livestock grazing. In addition to designating lands available (or unavailable) for grazing, WMP established programmatic management prescriptions including regional land health standards and guidelines for grazing management; utilization prescriptions for perennial species; restrictions on cattle grazing within habitat of the federally threatened desert tortoise (*Gopherus agassizii*); monitoring requirements; and specific management prescriptions for Desert Wildlife Management Areas (DWMAs) such as the elimination of ephemeral authorizations and the implementation of an ephemeral forage production threshold of 230 pounds per acre (pages 2-127,128). The EA analyzes the specific application of the programmatic management prescriptions of WMP and considers alternative means to achieve the purpose and need on this allotment.

2. WMP considered a range of alternatives for the public land livestock grazing program at a regional level on the approximately 3.2 million acres of public lands in the WMP planning area. The EA analyzes the range of alternatives for grazing consistent with WMP, including a proposed action and continuation of current management ("no action" alternative). A no grazing alternative is considered to address voluntary relinquishment and subsequent designation of the allotment as unavailable for grazing.

3. Impacts of livestock grazing are addressed at a regional level in WMP. Analysis addressed the impacts of livestock grazing on a wide range of resource topics, including impacts to air quality, soil, vegetation, wildlife, cultural resources, wilderness, and socio-economic impacts. This regional analysis is incorporated by reference (WMP FEIS pages 4-4 thru 4-282); general discussion of these impacts is repeated. The EA analysis focuses on the specific environmental issues associated with areas where livestock congregate on the allotment, specific areas of the allotment which are not meeting land health standards, and habitat of special status species. Discussion of the specific topics analyzed in the EA, as well as other resource topics addressed regionally (but excluded from further analysis in the EA) is contained in Chapter 3.

4. WMP balances conservation with public use, occupancy, and development on a regional level. For example, Areas of Critical Environmental Concern (ACECs) and DWMAs are established; routes of travel on public lands designated, and other management prescriptions are provided to guide multiple use management. BLM proposes specific lease terms and conditions to ensure that an appropriate multiple use balance is maintained on this allotment, while providing for resource conservation within the context of the CDCA Plan as amended by WMP and the scope of the Biological Opinion for the California Desert Conservation Area (West Mojave Plan) (1-8-03-F-58, January 9, 2006). In addition, BLM may use its authority to close areas of the

allotment to grazing use or take other measures to protect resources as needed. Therefore, issuance of a "fully processed" grazing lease with such applicable terms and conditions is necessary to manage the public's use, occupancy, and development of the public lands and prevent unnecessary or undue degradation of the lands (per 43 USC 1732[b]).

D. Purpose and Need

The *purpose* of the EA is to determine whether to authorize grazing within the allotment and whether changes are necessary to its current management. The *need* for the EA is to evaluate the lessee's request to graze cattle, and thus continue his cow-calf operation, on the allotment consistent with the prescriptions identified in WMP dated March 13, 2006, the terms and conditions of the WMP biological opinion, dated January 9, 2006, and with the Regional Rangeland Health Standards approved in WMP, and to determine any allotment management changes needed to maintain or improve resource conditions in the allotment.

E. Plan Conformance

The decisions of WMP that specifically pertain to the proposed action (in Chapter 2) include:

"BLM will continue to administer existing authorizations and uses and will consider future requests consistent with this ROD. Any new authorizations or use of public land within the West Mojave Desert area must be in conformance with the West Mojave Plan and subject to site-specific analysis. Such authorization and use would be subject to administrative review at the time of issuance of a final BLM decision regarding the authorization or use..."

"This ROD approves the Regional Public Land Health Standards and Guidelines to be consistent with the other regional amendments of the CDCA Plan and provide uniform management with respect to grazing, protection of riparian areas, fragile soils and water quality. The regional standards must be submitted to the Secretary of Interior for final approval."

F. Voluntary Relinquishment

WMP did not identify the allotment for voluntarily relinquishment. However, the lessee may request voluntary relinquishment of their lease at any time. Because this allotment was not identified for voluntary relinquishment, a plan amendment would be required for subsequent designation of the allotment as unavailable for livestock grazing. If BLM determines that an amendment is not warranted, the allotment would remain available for livestock grazing and BLM would consider new applications for lease by qualified applicants.

G. Consultation, Cooperation, and Coordination

In May 2003, a draft of WMP was made available for review and comment to all lessees and interested publics, including Native American tribal governments.

For scoping on NEPA, on or about July 19, 2004 Barstow Field Office (BFO) mailed Chapters 1 and 2 of an earlier iteration of this EA to the lessees and all interested publics, including

pertinent Native American tribes. BFO requested feedback on the proposed action and alternatives and asked if any additional alternatives should be considered.

On September 30, 2004 BFO issued Proposed Grazing Decisions to the grazing lessees and all interested publics. Action on final decisions was deferred until after release of the WMP and Final EIS. These decisions were never finalized and will be vacated as part of this grazing lease renewal action.

In January 2005 the final EIS for WMP was issued to all lessees and interested publics for their review and comment.

BFO issued the earlier iteration of this EA on April 6, 2006 for the purpose of soliciting input to make grazing within this allotment and other West Mojave allotment consistent with the guidance in the WMP. The EA analyzed the proposed grazing lease renewal for this and other allotments to the lessees and all interested publics, including pertinent Native American tribes.

On July 12, 2006 BFO issued a letter to the lessee informing him of the status of the EA and anticipated timeline for completion of the EA decision record, and issuance of the proposed and final decision and 10-year grazing lease.

On September 6, 2006, BFO staff met with the lessee to discuss the permit renewal process, and to present the draft Chapter 2 (proposed action and other alternatives) of this document.

On November 7, 2006, the BFO issued a revised EA for comment to the lessee and interested publics. Comments were received from the lessee and six interested publics.

H. Relationship to Statutes, Regulations, and Plans

A site-specific evaluation of the proposed grazing lease renewal is required by BLM implementing regulations for NEPA, FLPMA, grazing regulations found at 43 CFR 4100 et seq. and the WMP ROD. Various other environmental laws are pertinent to analysis of critical elements of the human environment as defined in CEQ and DOI policy, and are addressed within this EA in the context of the analysis of specific elements.

1. State Historic Preservation Office Protocol Amendment for Renewal of Grazing Leases

In August 2004, the State Director, California Bureau of Land Management, and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act of 19966, as amended (NHPA) Section 106 compliance procedures for processing grazing permit lease renewals for livestock as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 State Protocol Agreement between California Bureau of Land Management and the California SHPO with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal. This amendment allows for the renewal of existing grazing permits prior to completing all NHPA compliance needs as long as the 2004 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific

amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed. (see Appendix 1). The lessee would comply with any future standard protective measures that may be developed for the protection of cultural resources upon further allotment inventory, based on site evaluation and the determination of significance.

2. USFWS Biological Opinions on the California Desert Conservation Area Plan

BLM would ensure compliance with the Incidental Take Statement (ITS) of the biological opinion on the WMP. BLM would immediately report to USFWS any injuries or mortality to desert tortoises as a result of grazing. The BLM and USFWS would review the circumstances to determine if any additional protective measures are required. The BLM would compile any instances of take of the desert tortoise due to grazing activities and report annually to the USFWS. If the annual level of take reaches 5 desert tortoises for all the allotments in the WMP and Northern and Eastern Mojave Plan Amendment areas, BLM would meet with USFWS to determine if re-initiation of consultation is necessary on the grazing aspect of the plan.

3. Grazing Prescriptions Contained in the WMP Addressed to BLM

a. Within 12 months after completing a Health Assessment for a specific area (i.e., grazing allotment, watershed, etc.), the BLM would use field and office information to make a health determination, which would serve as baseline information to develop corrective management strategies. Where a determination indicates that standards are not being achieved, changes in grazing management would be implemented that may result in new terms and conditions to achieve standards and conform to guidelines. Although not reiterated below, this same regulatory process would be required following specified time-frames given for the health assessments that follow.

b. In all cattle allotments occurring in desert tortoise habitat outside of DWMAs, ephemeral authorization would only be granted when ephemeral production exceeds 230 pounds per acre.

c. New cattle guards would be designed and installed to prevent entrapment of desert tortoises. All existing cattle guards in desert tortoise habitat would be modified within three years of plan adoption to prevent entrapment of desert tortoises.

d. Any hazards to desert tortoises that may be created, such as auger holes and trenches, would be eliminated before the rancher, contractor, or work crew leaves the site.

e. WMP requires that a grazing strategy be developed within the parameters of the grazing prescriptions for the allotment within one year after approval of the WMP ROD, which would be incorporated into a revised Allotment Management Plan (AMP) for the allotment.

f. Allotments not voluntarily relinquished after 24 months from adoption of the plan would be scheduled for public land health assessment within 18 months.

g. Based on concerns expressed by management and grazing lessee(s), conduct a study of desert tortoise nutritional ecology in relation to livestock grazing, comparable to studies performed in the Ivanpah Valley during the late 1990s. If appropriate, modify grazing program in response to study findings.

h. In all cattle allotments occurring in desert tortoise habitat outside of DWMAs, ephemeral authorization would only be granted when ephemeral production exceeds 230 pounds per acre.

CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action – Implementation of the West Mojave Plan

The proposed action is issuance of a 10-year fully processed lease in conformance with the CDCA Plan and WMP as described in parts 1-5 of this section. The intent of the proposed action is to combine environmental protection with continued use of the allotment for livestock grazing.

1. Livestock Numbers and Season of Use

Table 1.

Allotment	#	Kind	Class	From	To	AUMs
Rattlesnake Canyon	Not to exceed the equivalent of 87 cows	Cattle / Horse	Cow-calf	March 1	February 28	1,044

2. Livestock Management

Under the proposed action BLM would authorize year-long, cow-calf grazing with a maximum permitted use of 1,044 AUMs (**the equivalent of 87 cows year-long, or any combination of cows and horses that does not exceed 87 animal units year-long**). This permitted use level represents the permitted use authorized by the CDCA Plan and the maximum stocking rate allowed prior to the implementation of the Settlement Agreement.

This is a year-long grazing allotment; it is topographically divided by elevation and terrain into three primary grazing units within the allotment (see Map 1). There is no rotation schedule per se, but movement to take advantage of forage conditions as follows:

- The upper elevation (or **mountain) pasture** is located in the Bighorn Mountains and is typically used in the summer and through November when warm-season forage is at its peak growth and nutritive value at this elevation. It comprises approximately 45% of the allotment.

- The lower elevation (or **desert) pasture** of the allotment is typically used by livestock in the winter and spring months when cool-season forage is at its peak growth and highest nutritive value. This area comprises approximately 50% of the allotment.

- **Rattlesnake Canyon** links the desert and mountain grazing pastures. This area comprises the remaining 5% of the allotment, but it is a key topographic feature affecting the management and distribution of livestock throughout the allotment. There is continuous, year-round use of the canyon. Highest concentration levels would occur in the late fall and early summer if cattle are being herded from one pasture to the other through the canyon. (Under the Settlement Agreement, this practice was prohibited.)

Under the new lease, cattle could be herded through Rattlesnake Canyon from the desert pasture to the mountain pasture, and vice versa, provided the owner of privately held section 3 of Township 2 North, Range 3 East, through which the canyon runs, does not fence the cattle out. (Under interim measures, trailing cattle through Rattlesnake Canyon was prohibited, and BLM had placed exclusion fencing and collapsible cattle guards at the north and south entrances to the privately held section to keep cattle out. The fences and cattleguards were washed away by repeated flooding in the winter of 2004-2005.)

Within the pastures and the canyon, use by livestock is generally more concentrated close to developed water, salt licks, corrals, along fencelines and adjacent to existing roads. Local topography influences levels and duration of use by cattle. In the mountain pasture the highest concentration of livestock use occurs at or near developed water sources, and on the rolling hills or comparatively level plateaus

Additional management actions may be required on this allotment to achieve fallback standards and guidelines. These actions would be based on an assessment of success of protective measures identified through the 1998-1999 rangeland health assessment and the WMP, and resulting recommendations contained in the Determination of Rangeland Health for this allotment if it is still not achieving fallback standards and guidelines, and management actions generated during development of the grazing strategy. If upon follow-up assessment, the native species standard is still not being met or satisfactory progress is not being made toward meeting it, BLM may require a rest-rotation system based around available waters of the pasture to rest all areas of the pasture from time to time.

In addition, standard terms and conditions (e.g. requirement to perform normal maintenance on range improvements) contained in the existing (expired) grazing lease for this allotment would also be incorporated into this lease renewal. There are no additional terms and conditions directly related to cattle grazing contained in the WMP biological opinion. Additional terms and conditions could be required by the Authorized Officer based on conditions on the ground.

3. Range Improvements

All existing range improvements would continue to be maintained. The assignment of maintenance is either given to the lessee, retained by BLM, or a combination of both parties. A complete list of the existing range improvements is found in Chapter 3 (also see map 2).

Additional troughs, re-routing of pipelines systems, and placing shut-off devices (floats) would be used as well, as needed. Salt and/or mineral blocks would be prohibited within a quarter of these springs.

New range improvements designed to accommodate improvement of rangeland health would likely be needed (although none are proposed at this time). For instance, riparian areas (developed or undeveloped) that exhibit downward trend in condition would be considered for mitigation such as fencing, based on priority and funding availability. This EA does not enable these range improvements through the proposed lease authorization, nor does the EA serve in

any way to discharge BLM's requirements under NEPA regarding required future site-specific analysis of the improvements. ESA section 7 consultations would be conducted as needed.

Table 2 depicts range improvement that would be installed under this alternative; they are the same those proposed under the "no action" alternative.

Table 2. Proposed Range Improvements

Project Name/No.	Location Township/Range / Section	Comments e.g. General condition	Mitigation Description (indicate resource benefit of improvement)
Lower Rattle Spring	T3N, R3E, Section 34, SE ¼ SE ¼	Non-functional; downward trend	Exclusion fence to protect spring from cattle; allow to recover to PFC
Kynna Spring	T3N, R3E, Section 23, NE ¼ SW ¼	Functioning at risk; downward trend	Exclusion fence to protect from cattle; allow spring to recover to PFC

4. Monitoring

On-going rangeland monitoring on the allotment would continue. Monitoring is conducted in three broad categories. These categories are 1) short-term monitoring, 2) long-term monitoring, and 3) rangeland health assessments.

* Short-term monitoring is used to gauge the cause-and-effect relationship of the current authorization. This type of monitoring consists of actual use, current climatic conditions and the collection of utilization data. Collection of grazing intensity (utilization) data is triggered by the growing season of key species and correlates with the phenology of key species. In riparian areas, additional annual monitoring of potential physical impacts to vegetation, soils, and stream banks would be conducted. Observations of utilization on key species can provide an indication of the trend in range condition, which is the state of vegetative cover and soils in relation to a standard or predicted condition for a particular ecological site. Forage utilization is generally greater, and plant vigor, abundance and age class distribution of key species is generally more intense around water sources or high-use facilities due to constant soil compaction from continual trampling and cropping of vegetation by livestock. Under the proposed action overall trend is anticipated to remain static, except that an upward trend is anticipated in areas currently in poor range condition because of the lower allowable utilization thresholds that would be used.

* Long-term monitoring: Data is usually collected every two to three years. The collection of trend data is used for statistical analysis of vegetative attributes to determine the effectiveness of long-term grazing strategies. The collection of measured trend has typically been accomplished through the collection of frequency data at key areas; the data are used to make adjustments to grazing as needed to accomplish desired management objectives and to improve rangeland health.

* Rangeland health assessments: The assessment of indicators of rangeland health information is

a qualitative/quantitative method. Data is gathered by an interdisciplinary team who take observations and direct measurements of various indicators to determine the health of rangelands and the achievement of fallback or regional standards of rangeland health. This process is considered a long-term process, and typically occurs not later than every 10 years. Rangeland health assessments would be carried out on the allotment in 2007 and 2008 using BLM Technical Reference 1734-6 Version 4.

* Bird surveys: The federally endangered least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) likely make transitory use of riparian habitat in far southern portions of the allotment; the previously disputed Section 22 of T2S, R3E is an area of particular interest because of its potential as vireo and flycatcher nesting habitat. Therefore, as funding becomes available, protocol surveys would be conducted to assess riparian habitat and to determine the presence of the least Bell's vireo and southwestern willow flycatcher in these areas. Adjustments to the grazing schedule and timing of use of these areas would be made as needed to accommodate the birds if they are present. Consultation under section 7 of ESA is triggered by a "may affect" determination by a federal agency. BLM cannot accurately make a "may affect" determination until presence of these species is confirmed, and if confirmed, that grazing is causing an adverse affect to the species or their habitat.

5. Measures to Maintain or Achieve Standards (Terms and Conditions of Lease)

The desert pasture portion of the allotment is within habitat of the desert tortoise; the allotment is not within a desert wildlife management area (DWMA). About 12,000 acres is desert tortoise habitat.

The allotment is being managed the fallback standards and guidelines cited under 43 CFR 4180.2(f)(1). Fallback standards II (Riparian / wetland), III (Stream morphology), and IV (Native Species) apply to desert tortoise habitat and populations. The achievement of these standards is linked to conformance with the terms and conditions contained in WMP and other terms and conditions derived from both fallback and regional grazing guidelines. These standards are not being achieved on portions of the Rattlesnake Canyon Allotment (see Table 3).

As measured in 1998-1999 (BLM 1999, see Appendix C), portions of the allotment failed to achieve the Fallback Rangeland Health Standards as follows:

Table 3. Determination of Rangeland Health: September 22, 1999

Rangeland Health Standard	Meets Standard?	Impacts from Livestock?	Remarks
Soil permeability	Yes	No	
Riparian / wetland	No	Yes	Failing acreage less than 20 acres

Stream morphology	No	No	Not progressing toward standard
Native species	No	Yes	Failing on 3 polygons totaling about 4000 acres (~ 15%); **all progressing toward standard**

With the approval of the WMP and scheduled renewal of the grazing lease, corrective management actions have been taken to move these areas toward achievement of the Fallback Standards. Under the proposed action, reasonable and prudent measures from the WMP biological opinion would be incorporated as stipulations of the lease along with the grazing prescriptions contained in WMP and other stipulations required by the BFO Field Manager. (Only the measures applicable to this allotment are listed below.)

a. Proposed Terms and Conditions - WMP

The reasonable and prudent measures of the CDCA BO would be incorporated as stipulations of the grazing lease, along with grazing prescriptions contained in WMP and other stipulations required by the Barstow Field Office Manager:

A new term and condition listed under the proposed action would be the requirement for the lessee to report to BLM the sighting of any injured and dead desert tortoises. These reports would be followed up by an investigation of the cause of injury or mortality. This requirement would assist BLM in compiling the number of discoveries and generating a report to USFWS. USFWS would then make a determination of direct impacts to the species and whether reinitiation of formal consultation would be required.

1. Only qualified personnel would be allowed to handle desert tortoises, conduct clearance surveys, and monitor compliance with other desert tortoise protective measures. Handling of desert tortoises by the lessee would be prohibited.

2. The lessee would be required to notify BFO immediately upon any instance of take of a desert tortoise (as defined by ESA).

3. The lessee would be required to contact BFO immediately if a desert tortoise is found injured or killed by human activity. Grazing may continue pending a review of the incident by BLM and USFWS, provided the lessee has adhered to all other stipulations of the lease.

4. Utilization would be monitored at key areas and/or use areas. The key forage plant method (Technical Reference 1734-6) would be used to determine utilization levels. Utilization of key forage species would not exceed 25% for grazing that occurs during the growing season or on

areas that do not meet standards. Per WMP, utilization levels on key upland and riparian species would not exceed 25% between February 15 thru May 30 and October 1 thru November 30. Utilization levels on key upland and riparian species would not exceed 40 % between June 1 thru September 30 and December 1 thru February 14. When utilization levels exceed prescribed levels, the lessee would be required to remove livestock from key areas.

As noted in the following table (from page 2-124 of WMP), good condition rangelands or those grazed during the dormant season can withstand higher utilization levels. Poor condition rangelands or those grazed during the active growth season would receive lower utilization levels.

Table 4. Grazing Guidelines for Range Types

RANGE TYPE	PERCENT OF USE OF KEY PERENNIAL SPECIES	
	POOR – FAIR RANGE CONDITION OR GROWING SEASON	GOOD – EXCELLENT RANGE CONDITION OR DORMANT SEASON
Mojave Desert Scrub	25	40
Mountain Shrubland	30	40
Pinyon-Juniper Woodland	30	40

5. In desert tortoise habitat, all livestock carcasses found within 300 feet of a road or watering source would be removed and disposed of in an appropriate manner (i.e., not buried) within two days of being found or, if this is not practicable, such reasonable time as is acceptable to the BLM authorized officer. Carcasses found farther than 300 feet from a road or watering source would remain unless determined to be a health or safety hazard.

6. In all cattle allotments occurring in desert tortoise habitat outside of DWMAs, ephemeral authorization would only be granted when ephemeral production exceeds 230 pounds per acre Ephemeral authorization (if applied for) on this allotment would be considered if production of ephemeral forage is 230 lbs. per acre or greater. (The allotment is not within a DWMA.)

7. If the lessee or his designee creates hazards to the desert tortoise such as auger holes or trenches, such hazards would be eliminated before the rancher, contractor, or work crew leaves the site.

b. Other Proposed Terms and Conditions

8. The lessee shall comply with any future standard protective measures that may be developed for the protection of cultural resources based on site evaluation and the determination of significance.

Fallback Guidelines:

1. The lessee would place supplements (salt/and or mineral blocks) no closer than ¼ mile of the water source, cultural sites, or desert tortoise burrows. The lessee would notify BLM of the proposed location(s) prior to placement.

2. Through the use of float values or other devices, natural water sources developed as range improvements would be modified and maintained to ensure no excessive loss of water.

3. In years when weather results in extraordinary conditions (such as extreme drought), BLM may require the lessee to modify grazing to allow seed germination, seedling establishment, and reproduction of native plant species.

4. During prolonged drought BLM would require the lessee to reduce stocking rates as needed.

Regional Guidelines from WMP

1. Natural water sources developed as range improvements would be modified and maintained to ensure there is no excessive loss of water to protect the ecological function and processes of these sites. This may be achieved with the use of float values or other devices.

2. The lessee would place supplements (salt/and or mineral blocks) a minimum of a quarter mile from natural water sources (such as wetlands, riparian areas, and springs), cultural sites, and desert tortoise burrows. The lessee would notify BLM of the proposed location prior to placement.

3. In years when weather results in extraordinary conditions BLM may require the lessee to modify grazing to allow seed germination, seedling establishment, and reproduction of native plant species.

4. During prolonged drought BLM would require the lessee to reduce stocking rates.

* Implementation of regional standards for public land health and guidelines for grazing management as shown in WMP cannot occur until the Secretary of the Interior approves them. Until that time, the nationally developed fallback standards and guidelines would continue as the basis for public land health.

B. No Action Alternative – Interim Measures of the Settlement Agreement

This serves as the baseline for comparing the effects of the existing grazing management program on the allotment. On January 19, 2001, the BLM and the Center for Biological Diversity et. Al. entered into a stipulated agreement effective immediately, herein known as the "settlement Agreement" for the management of livestock grazing under a federal court action. Under this alternative, BLM would renew the grazing lease under the interim measures from this Settlement Agreement, the terms and conditions derived from biological opinions for the management of livestock in habitat of the desert tortoise that were issued prior to the WMP, and the grazing guidelines contained in 43 CFR 4180.

1. Livestock Numbers and Season of Use

Table 5.

Allotment	#	Kind	Class	From	To	AUMs
Rattlesnake Canyon	Not to exceed the equivalent of 45 cows	Cow-calf	Cattle/horses	March 1	February 28	541

2. Livestock Management

There are a total of eight developed water sources on the allotment. The relative scarcity of water and the distribution thereof has a profound effect on how livestock are managed on the allotment.

The Settlement Agreement's interim measures prescribed that certain areas of the Rattlesnake Canyon Allotment would be excluded from cattle grazing in the spring (March 1 thru June 15) and the fall (September 7 to November 7). In addition, the interim measures placed a stocking rates threshold of 541 AUMs for this allotment, and prohibited trailing cattle through Rattlesnake Canyon to take them from the mountain pasture to the desert pasture (and vice-versa).

Thus the allotment is managed as a year-long cow-calf operation. The use of the desert pasture during the winter and spring months, continuous use in the canyon itself, and use of the mountain pasture during the summer months is a given, as explained previously at A.2. (Livestock management). The major difference under Settlement Agreement interim measures is that the western portion of the desert pasture is unavailable for grazing from March 1 to June 15 and September 7 to November 7 each year to allow for use by the desert tortoise without competition from cattle. Livestock are thus moved to the eastern portion of the pasture or to locations on private land outside of the allotment.

3. Range Improvements

Table 2 depicts range improvement that would be installed under the no action alternative.

Table 2. Proposed Range Improvements (same as proposed action)

Project Name/No.	Location Township/Range / Section	Comments e.g. General condition	Mitigation Description (indicate resource benefit of improvement)
Lower Rattle Spring	T3N, R3E, Section 34, SE ¼ SE ¼	Non-functional; downward trend	Exclusion fence to protect spring from cattle; allow to recover to PFC
Kynna Spring	T3N, R3E, Section 23, NE ¼ SW ¼	Functioning at risk; downward trend	Exclusion fence to protect from cattle; allow spring to recover to PFC

4. Monitoring

Monitoring already underway would continue (same as the proposed action).

C. Alternative III - No Grazing Alternative

Under this alternative grazing would not be authorized on the allotment.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

This chapter addresses, by affected resource, the affected environment, environmental consequences, and consultation sections of the EA for 20 resource elements. These elements include the standard critical elements of the human environment (H-1790-1, appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock grazing. If a resource is not present or not affected, a negative declaration statement is included in the pertinent Affected Environment section, and the resource element will not be further addressed in this environmental assessment.

Elements:

A. Livestock Grazing
B. Air Quality*
C. Areas of Critical Environmental Concern (ACEC)*
D. Cultural Resources / Native American Concerns*
E. Environmental Justice*
F. Farmlands, Prime or Unique*
G. Floodplains*
H. Vegetation/Invasive, Non-native Species*
- Threatened or Endangered Species*
I. Recreation
J. Social and Economic
K. Soil/BSC
L. Waste, Hazardous or Solid*
M. Water Quality, Surface and Ground*
N. Wetlands/Riparian Zones*
O. Wild and Scenic Rivers*
P. Wilderness*
Q. Wildlife
- Threatened or Endangered Species*
R. Wild Horses and Burros

* indicates Critical Elements of the Human Environment

A. LIVESTOCK GRAZING

1. Affected Environment

The Rattlesnake Canyon Allotment (#8003) is an ephemeral/perennial cattle allotment with potential forage production to enable BLM to authorize ephemeral forage and an established perennial forage allocation. The current lease (#046803) authorizes 1044 animal unit months (AUMs) on the allotment, or put another way, the equivalent of 87 cows year-long. The allotment encompasses 28,277 acres, including private (805 acres) and public (BLM) lands. Public land totals 27,472 acres; of that, 12,800 acres are non-DWMA desert tortoise habitat. This allotment is located in rural San Bernardino County, approximately 45 miles southeast of

Barstow.

During years of exceptional forage production (El Nino winters or summers with extreme monsoon rainfall), application for concurrent ephemeral grazing (along with the perennial grazing) of the allotment could conceivably occur. However, no application for ephemeral grazing has occurred in nearly two decades, and none is anticipated in the future (Chavez 2006).

The following table depicts existing range improvements on the allotment.

Table 5. Existing Range Improvements

Name, Improvement #	**Location Township/Range/ Section**	**Comments**	**Mitigation Description**
One Hole Spring, #8010	T3N ,R3E, Section 23, SE ¼ NE ¼	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Source and associated riparian habitat fenced.
Two Hole Spring /Corral, #8019	T3N, R3E, Section 20, NE ¼ NW ¼	Important water source for livestock and wildlife in desert pasture. Functioning as designed. Important holding facility.	Source fenced.
Rattlesnake Spring, #8021	T3N, R3E, Section 19, NW ¼ NE ¼	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Source is fenced.
Willow Spring, #8022	T3N, R3E, Section 22, NE ¼ NW ¼	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Source is fenced.
Dove Spring, #8026	T3N, R2E, Section 15, NW ¼ SE ¼	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Large is pond fenced.

Mound Spring, # 8028	T2N, R3E, Section 15, NE ¼ SW ¼	Important water source for livestock and wildlife in mountain pasture. Functioning as designed.	Source is fenced.
Vaughan Spring, no range improvement #	T2N, R3E, Section 15, SE ¼ NW ¼	Important water source for livestock and wildlife in mountain pasture. Functioning as designed.	Source and associated riparian habitat fenced.
Northwest Rattlesnake Boundary Fence, #8484	N/A	NW allotment boundary Fence; and where it diverts from the allotment boundary, serves as an exclusion fence.	Prevents livestock drift off allotment. Excludes livestock from critical habitat of Parish's daisy.
SE Rattlesnake Boundary Fence, #8483	T2N, R3E, Sections 12 and 14	3½ miles, 4-strand, smooth top wire.	Will prevent unauthorized cattle drift off of allotment into wilderness. .
South Rattlesnake Boundary Fence, #8457	T2N, R3E, Section 14	Southern allotment boundary fence (except along section line between sections 15 and 22.	Prevents livestock drift off allotment onto adjacent private land.
North Rattlesnake Boundary Fence, #8458	T3N, R3E, Section 10, SW ¼ SW ¼	Northern allotment boundary fence.	Prevents livestock drift off allotment onto private land.

North boundary fence cattle guard, #8641	T3N, R3E, toward western end of section line between sections 10 and 15	Major entry point into allotment from north; on open route	Prevents livestock drift off of allotment along open route
South cattle guard. # 8460	T2N, R3E, toward western end of section line between sections 15 and 22	On open route, was at one time considered the allotment boundary	Could be used to limit livestock access along the open route into section 22 if needed

Based on BLM records, cattle grazing on what is now the Rattlesnake Canyon allotment has occurred continuously since the 1950's. The CDCA plan rated the allotment in good range condition, with a carrying capacity of 1,044 AUMs.

Stock water has been developed since the 1950's. There are currently eight operating water sources on public land. These are all natural springs that have been developed to make water available to livestock in drinkers; none have storage tanks.

2. Environmental Consequences

a. Impacts of the Proposed Action

Under the proposed action, the grazing lease for the allotment would be renewed for 10 years. Management would revert to pre-Settlement Agreement conditions, including the original permitted use of 1044 AUMs. **Permitted use would revert to the original stocking rate**, which is nearly double the permitted use under the Settlement Agreement. It is important to note that **this is not a doubling of stocking rates per se**. It is merely a reversion to the original stocking rate authorized by the CDCA Plan. The terms and conditions contained in the new lease would include the grazing prescriptions listed in WMP, as well as other terms and conditions deemed necessary by the Barstow Field Office Manager. These grazing prescriptions would not substantially change current grazing operations on the allotment being re-authorized. They would include key terms and conditions contained in previous grazing decisions related to cattle grazing in desert tortoise habitat.

The entire desert pasture would once again be available for grazing use without exclusion periods. However, if BLM were to require a rest-rotation system to correct a continued failing native plant standard after the upcoming 2007-2008 rangeland health analysis, more "hands-on" management on the part of the lessee would be required to make this work to the benefit of the resource, particularly non-shrubby native vegetation.

Cattle could be trailed through Rattlesnake Canyon (see Chapter 2, section 2.a.).

b. Impacts of the No Action Alternative

Under the proposed action, the grazing operation would **return to interim measures management. (Interim measures ended when the ROD for WMP was signed in March 2006)**. Impacts to the grazing operation as it is operated now (see Chapter 2) would remain as they are now. (See also Section H, Vegetation.) Under interim management, the permitted use is 541 AUMs (45 cattle) or approximately 50% of the stocking potential as the proposed action and allowed under the CDCA Plan, and includes a spring and fall exclusion period. This is not anticipated to be significantly impacting to the lessee or his current operations because he has been successfully operating under interim measures for the past five years.

c. Impacts of the No Grazing Alternative

Under this alternative grazing operations on the allotment would cease. This should not be confused with voluntary relinquishment; this allotment is not identified by WMP as being available for voluntary relinquishment. The no grazing alternative on this allotment, if selected, would be imposed upon the lessee; it would not be voluntary

By definition then, this alternative would have a significant negative impact on the lessee's grazing operation. The lessee would be forced into some other occupations to support his family or into substantial additional land purchases because sufficient amounts of owned or leased private land are not currently available to him. The lessee would in all likelihood be forced to terminate his grazing operation, which would represent a substantial personal financial hardship.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to allotment lands.

e. Maps

See Map 2.

f. References:

None

B. AIR QUALITY

1. Affected Environment

The project area for the purpose of this analysis is the Rattlesnake Canyon Allotment, located in rural San Bernardino County (see M 1).

The project area is part of the Mojave Desert Air Basin. Most days air quality is good to fair. Windblown air pollutants from the South Coast Air Basin, which includes Orange County and non-desert portions of Los Angeles, Riverside, and San Bernardino counties, strongly influence the air quality of the Mojave Desert Air Basin. As pollutant emissions continue to decline in the South Coast Air Basin, the Mojave Desert Air Basin will benefit.

The pollutant emissions from sources, climatic conditions, and atmospheric interactions determine the quality of air. Air quality in a given location is described by the concentration of various pollutants in the atmosphere. An area is designated by the EPA as being in non-attainment for a pollutant if ambient concentrations of that pollutant are below the National Ambient Air Quality Standards (NAAQS).

Non-attainment areas are designated if repeated violations of the NAAQS occur, and the relative seriousness of the problem is determined at the time that a basin is determined to be in non-attainment of national standards. The classification may be deemed to be Very Serious, Serious or Moderate non-attainment. The California Clean Air Act of 1988 also requires that areas of California be designated attainment, non-attainment, and unclassified for state ambient air quality standards. The Ord Mountain allotment is included in an area classified by EPA and the California Air Resources Board as a Moderate non-attainment area for particulate matter (PM^{10}) and serious non-attainment for ozone.

Sources for ozone missions include exhaust from primary transportation vehicles (particularly diesel trucks) industrial sources, including secondary sources, and climatic sources. Grazing management activities do not contribute measurably to ozone emissions.

Primary sources for emissions of particulate matter under 10 microns, PM^{10}, in the project area are wind erosion on unpaved surfaces including disturbed areas, fires, and, mining-related activities. During most days of the year, visibility exceeds 25 miles. Exceptions occur during strong winds when locally generated particulates become airborne, during nearby forest fires or when dust is blowing and when smog filters up from the Los Angeles Basin. Generally, locally generated PM^{10} pollution is somewhat greater in the vicinity of increased disturbed areas and route densities, as well as increased unpaved route use associated with mining and recreational activities.

The Mojave Desert Air Quality Management District (MDAQMD) has State air quality jurisdiction over San Bernardino County, and has been delegated authority to implement the Clean Air Act from the EPA. MDAQMD has analyzed impacts from existing sources for PM^{10}, and prepared a state implementation plan (SIP) for the Mojave Desert planning area which identifies sources of emissions and control measures to manage existing emissions and reduce new emissions (MDAQMD, 1995). In the SIP, Miscellaneous Area Sources were considered to by a minor category of PM^{10} emissions in the planning area, generating 1.3% of total emissions in 1990. Agricultural activity is a small contributor within this miscellaneous category, and the grazing allotment a small portion of the agricultural activity contributions. No measures were identified in the SIP specific to existing livestock grazing activities, and renewals of leases were exempted from conformity determinations consistent with the SIP, due to their nominal (less than 15 tons/year) contributions to air quality in the Mojave Desert planning area (BLM, 1997).

None of the alternatives would result in increased grazing activities over those historic levels, and regional exceedances of PM^{10} standards have decreased approximately 10% (EPA, 2003) due to voluntary and SIP measures to decrease emissions from substantial sources. Therefore, there would be no substantial affect to air quality under any of the alternatives.

2. References

Mojave Desert Air Quality Management District. 1996. Final Mojave Desert Planning Area Federal Particulate Matter (PM10) Attainment Plan.

U.S. Bureau of Land Management. 1997. Fugitive Dust/PM10 Emissions Control Strategy for the Mojave Desert Planning Area. Barstow Field Office, Barstow, California.

U.S. Environmental Protection Agency. 2003. National Air Quality and Emissions Trend Report; Figure. 2-40: Trend in PM10 annual mean concentration by EPA Region, 1992–2001.

C. AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The WMP created the 4,393-acre Carbonate Endemic Plants Research Natural Area ACEC (CEPRNA ACEC), of which approximately 600 acres are near the extreme western end of the allotment.

An exclusion fence constructed in 2004 and natural boundaries preclude cattle entry into this ACEC. Therefore, the intrinsic values for which the ACEC was created would not be affected by the alternatives presented in Chapter 2. (See Section H. of this chapter for a discussion of the carbonate endemic plants found on the allotment.)

D. CULTURAL RESOURCES

1. Affected Environment

Previous surveys of the allotment covered less than 2% of the total allotment and were conducted in the late 1970s. The surveys focused on natural water sources in the area.

There are two previously recorded sites on the allotment; both recorded sites are prehistoric short term habitation sites. These two recorded sites were recently tested by the BFO archaeologist; one site was previously fenced and shows no evidence of being impacted. The other site had ground staining that was believed to be a prehistoric midden. The staining was tested and determined to be organic in nature, therefore it was determined that there were no cultural resources present.

2. Unavailable Information

Field surveys of the allotment are scheduled for completion in fiscal year 2009, pursuant to the Supplemental Programmatic Agreement for Cattle Grazing (see Appendix B). Areas with

natural water sources, fence lines, salt licks, and other cattle congregation areas will be the main focus of the survey.

Within the jurisdiction for the BFO there are approximately 450,000 acres of land utilized for cattle grazing. As this is a time-consuming task, the Supplemental Programmatic Agreement for Cattle Grazing allowed 10 years (2014) to complete the cultural resource surveys of the grazing allotments. The agreement "allows for renewal (to) allow for renewal of an existing grazing permit prior to completing all NHPA compliance needs as long as Protocol direction, the BLM 8100 Series Manual guidelines (Protocol Amendment F), and…….specific stipulations are followed".

Environmental Consequences

1. Proposed Action

At present there are no known impacts to cultural sites as a result of cattle grazing. One known site was previously fenced, which is providing adequate protection from the effects of cattle grazing. For the other (tested) site, a determination was made that there are no cultural resources present, therefore continued grazing would have no effect upon Historic Properties, pursuant to the 2004 "Programmatic Agreement Among the Bureau of Land Management, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Identification, Evaluation and Treatment of Historic Properties Managed by the Bureau of Land Management, Throughout the State of California (2004a)."

As cultural surveys are completed pursuant to the Supplemental Programmatic Agreement for Cattle Grazing, sites identified as being impacted by cattle grazing will have Standard Protective Measures implemented as needed.

2. No Action Alternative

The Supplemental Programmatic Agreement for Cattle Grazing applies under current management; therefore the protective measures provided for under the agreement would be the same as the proposed action.

3. No Grazing Alternative

Threats to cultural resources from grazing would be eliminated and the Supplemental Programmatic Agreement for Cattle Grazing would no longer be needed to protect such resources on the allotment.

NATIVE AMERICAN CONCERNS

1. Affected Environment

Four Native American tribes have expressed interest in the allotment; however, they did not express concern for any specific sites. .

a. Consultation

Consultation with the Native Americans and interested publics on the proposed lease renewal for this allotment was initiated in April 2006. Comments and concerns regarding cultural and religious values within this allotment that may be affected by livestock grazing will also be solicited and incorporated into follow-up site-specific cultural evaluations as the evaluations occur.

BFO received one response to the Native American Consultation Letters (Morongo Band 2006). On May 4, 2006 the Cultural Resource Coordinator for the Morongo Band of Mission Indians (Cahuilla and Serrano) expressed concerns that the Native American habitation and petroglyph sites being impacted by grazing should be protected.

On November 17, 2004 consultation was conducted with the California State Historic Preservation Office; BFO (Bureau 2004c) submitted a schedule for implementation of the *Supplemental Procedures for Livestock Grazing Permits/Lease Renewals, A Cultural Resource Amendment to The State Protocol Agreement California Bureau of Land Management and the California State Historic Preservation Officer* (Bureau 2004b).

b. Maps

None (due to the proprietary nature of cultural resource information)

c. References:

Letter dated May 4, 2006. Cultural Resource Coordinator for the Morongo Band of Mission Indians (Cahuilla and Serrano). Banning, California.

U.S. Bureau of Land Management and California State Historic Preservation Officer. 2004a. The Manner in which the Bureau of Land Management Will Meet its Responsibilities Under the National Historic Preservation Act and The National Programmatic Agreement Among the BLM, and the National Conference of State Historic Preservation Officers. Sacramento, California.

U.S. Bureau of Land Management. 2004b. Supplemental Procedures for Livestock Grazing Permits / Lease Renewals, A Cultural Resource Amendment to The State Protocol Agreement: California Bureau of Land Management and the. California State Historic Preservation Officer. Sacramento, California.

U.S. Bureau of Land Management. 2004c. Letter to the California State Historic Preservation Office, dated November 17. Barstow Field Office, Barstow, California.

E. ENVIRONMENTAL JUSTICE

1. Affected Environment

The project area for the purpose of this analysis is rural San Bernardino County. Individual incomes vary widely in the cattle industry, depending on size of farm and whether activities are pursued on a full-time or part-time basis. Generally, farm incomes are above average as compared with other incomes in rural San Bernardino County. Overall, seasonal laborers hired by farm industries, including livestock ranchers, come from low-income households. This is typical of rural areas in general as compared with the overall population average income. Also, minority populations in the cattle industry are typical for rural San Bernardino County and farm industries in general. Therefore, the proposed action or any alternative would have no affect on environmental justice issues.

2. References

U.S. Department of Agriculture, National Agriculture Statistics Service. 2002. Census of Agriculture, San Bernardino County, California.

F. FARMLANDS, PRIME OR UNIQUE

The proposed action or any alternative would have no affect on farmlands, prime or unique because no prime or unique farmlands are present in or adjacent to the Rattlesnake Canyon grazing allotment. In the Mojave Desert, prime or unique farmlands are associated with floodplains, which are absent in the allotment.

G. FLOOD PLAINS

The proposed action or any alternative would have no affect on flood plains because no flood plains are present in or adjacent to the Rattlesnake Canyon grazing allotment (FEMA Flood Hazard Maps, 2006).

H. VEGETATION / INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

Vegetative communities within the allotment vary with elevation, available water, soils, slope and annual precipitation. Terrestrial natural communities have been mapped using the classification employed by the California Natural Diversity Database of the Natural Heritage Division in the California Department of Fish and Game (Holland 1986) and the California Native Plant Society's *A Manual of California Vegetation* (Keeler-Wolf and Sawyer 1995). The primary plant communities found on the allotment are Mojave Creosote Bush Scrub, Mixed Mojave Scrub, Desert Dry Wash Woodland, Black Brush Scrub, and Joshua Tree Woodland. Riparian vegetation is discussed in the Wetland/Riparian Zone (section M). These lands are considered to be "some of the last remaining intact examples of (the) transition zone from the San Bernardino Mountains into the Mojave desert (Center for Biological Diversity 2006)."

The following is a description of the key plant species or plant communities on the allotment

(also see map 3).

Mojave Creosote Bush Scrub – this community dominates the northern and eastern portions of the desert pasture, from 3200 to 4000 feet, in well drained soils found on alluvial fans, bajadas and upland slopes. The dominant perennial species in Creosote Bush Scrub plant communities is the creosote bush (*Larrea tridentata*), the most abundant shrub in the California Desert. The Creosote Bush Scrub plant community is generally characterized by low to medium plant diversity. Other common species in this community include white bursage (*Ambrosia dumosa*), Ephedra (*Ephedra* spp.), and desert senna (*Senna armata*). Desert washes that occur within this community support additional species, the most common being the catclaw acacia (*Acacia greggii*) and desert willow (*Chilopsis linearis*).

Mixed Mojave Scrub - This community occurs between 4000 and 4600 feet, on all slopes in the higher portions of the desert pasture and the lower portions of the mountain pasture, in shallow and deep soils that are occasionally rocky. The Mixed Mojave Scrub community is comprised primarily of the yucca species (*Yucca schidigera, Yucca bacata*), winterfat (*Kraschenninnokovia lanata*), boxthorn species (*Lycium* spp.), spiny menodora (*Menodora spinescens*), spiny hopsage (*Grayia spinosa*), and various cacti species (*Opuntia* spp., *Mammallaria* spp., *Echinocactus* spp.., *Ferocactus* spp.., *Echinocerus* spp.).

Joshua Tree Woodland - This community occurs between about 4600 and 6000 feet on gentle alluvial fans in colluvial soils. The Joshua tree (*Yucca brevifolia*) is the most obvious component of this community; however, compared to the frequency in which other shrubs and grasses occur in the community, it is seldom a truly ecologically dominant species. Some common associated species within the community are black brush (*Coleogone ramossisima*), rabbitbrush, cheese-bush, goldenbush species (*Ericameria* spp.), ephedra species, winterfat, bladderpod (*Isomeris arborescens*), creosote bush and various cacti species.

Black Brush Plant Community (black brush series) - This community occurs between 4000 and 5000 feet on alluvial slopes and bajadas in shallow soils that are often derived from a dolomitic, limestone substrate. The blackbrush plant community is dominated almost completely by blackbrush (*Coleogone ramosissima*) with some associates including Mojave yucca (*Yucca schidigeri*), ephedra, spiny hopsage and buckwheat species (*Eriogonum* spp.).

Non-native Invasive Species

The allotment has varying densities of invasive and non-native species. Overall, the current density of non-native invasive species on the desert pasture is considered moderate. Annual fluctuations in densities is directly influenced by the amounts of late winter, early spring precipitation, however the populations of these species is concentrated in the seed bank which only increases with flowering non-native plants. In the mountain pasture, invasive presence is considered light (primarily downy brome).

In the desert pasture, red brome (*Bromus madritensisi ssp. rubens*), downy brome (*Bromus tectorum*), schismus *(Schismus arabicus*), filaree (*Erodium cicutarium*), and several mustard species, including Sahara mustard (*Brassica tournefortii*) are the five most widespread invasive

species present. The invasive and non-native species compete with native herbaceous species, especially annual species, for available moisture, nutrients, and spatial occupation of available upland habitat.

Downy brome is the most evident invasive on the mountain pasture. It has not yet become a problem species capable of sustaining wildfire. However, based on fires (historical and as recently as the summer of 2006) that have occurred at other locations in the San Bernardino Mountains transition zone, its very presence could be a cause for concern in years to come because of this species' potential to burn.

Threatened or Endangered Plant Species

One federally threatened and two federally endangered plant species are found on the allotment. (See Table 6 below.) Critical habitat of all three species overlaps within the allotment. The federally endangered Cushenberry oxytheca (*Oxytheca parishii* var. *vineum*) is thought by some to exist on the allotment, but positive identification of this species on the allotment has not been made.

The WMP created the 4,393-acre Carbonate Endemic Plants Research Natural Area ACEC (CEPRNA ACEC), of which xxx acres are near the extreme western end of the allotment. Unusual Plant assemblages (UPAs) have not been designated for any of the listed plants. The only major threat to these species identified by BLM (2001) and USFWS (2003) to date is limestone mining; there are no active mine operations (limestone or other) on the allotment. Active mine claims remain, but no authorizations to mine have been issued by BLM, and no proposals to mine have been received in several years (Livingood 2006).

Table 6. Federally Listed Plants

Common Name	Scientific Name	Location	T&E Status on the allotment
Parish's daisy	*Erigeron parishii*	Low elevation desert pasture along Parten Mine road, and two small populations in the mountain pasture	Federally threatened with critical habitat
Cushenberry milkvetch	*Astragalus albens*	Arrastre Canyon drainage	Federally endangered with critical habitat
Cushenberry buckwheat	*Eriogonum ovalifolium* var. *vineum*	Arrastre Canyon drainage	Federally endangered with critical habitat

Although grazing has not been identified as a major threat, protective fencing was installed by BLM in 2000 to protect a small population of Parish's daisy located in the extreme southeast portion of the allotment (near Boundary Fence #8483) by blocking livestock access to this location.

Similar but more extensive fencing was installed by BLM in 2004 near the extreme western end of the desert pasture. This fencing excludes livestock from Parish's daisy critical habitat and populations of Cushenberry milkvetch, and the portion of the CEPRA ACEC that is on the allotment. (Prior to this, BLM had documented one case of herbivory on Parish's daisy, and the potential for trampling of these species had existed.) This fence also serves to fence livestock out of most, but not all, of the critical habitat of the Cushenberry milkvetch and the Cushenberry buckwheat on the allotment. According to USFWS (2003), "The Bureau has fenced the Rattlesnake Canyon Allotment to exclude from grazing all areas occupied by the Parish's daisy; therefore, any potential adverse effects of grazing on this species have been eliminated." It stands to reason that individuals and isolated populations of the Cushenberry milkvetch and Cushenberry buckwheat, and the entirety of the CEPRA ACEC on the allotment, are similarly protected by the western exclusion fence.

The 1999 rangeland health assessment and other monitoring studies (including condition and trend, see Table 1) identified the effects of livestock grazing on allotment vegetation. The assessment teams compared indicators of resource conditions to the National Fallback Standards, and after a review of other indicators and conditions, recommended continuation or modification to current grazing management or other practices. These recommendations were finalized with the signing of a determination by the Barstow Field Manager in September 1999.

On this allotment, three standards were not met. One of the three, the native species standard was judged to be progressing toward, but not meeting standards, on three "polygons" totaling about 4000 acres (about 14% of the allotment). Over-utilization by cattle during growing season and lack of rest were cited as the reason for the degraded plant communities identified. It is important to note that **over-utilization of these areas does not correlate to over-utilization throughout the pasture or allotment**.

2. Environmental Consequences

a. Impacts of the Proposed Action

Grazing practices that allow for periodic recruitment opportunities generally result in lower densities of non-native species and are more compatible with sustaining native plant communities. Under the proposed action, strict compliance with the grazing prescriptions contained in the WMP ROD and the WMP BO would allow for these recruitment opportunities, thus helping to sustain native plant communities and reduce the spread of non-native invasive species. The lowered utilization thresholds on key forage plants should improve the overall trend of native plant communities. If future monitoring or rangeland health analysis indicates that the native plant component is still not being met, rest-rotational grazing could be imposed upon the lessee if BLM determines that this method of grazing would correct the problem.

Listed plants populations species are protected from grazing by exclusion fences, and most of their critical habitat is protected by the fences as well. The fences would remain in place under the proposed action.

b. Impacts of the No Action Alternative

Interim measures for grazing are intended to enhance native species production by excluding cattle from the western portion of the desert pasture from March 15 to June 15 and September 7 to November 7 each year. The purpose of these exclusions is to enhance desert tortoise habitat. During these times each year, cattle are only allowed to graze in the eastern portion of the pasture. The higher concentrations of cattle in the western portion of the pasture result in increased herbivory in this part of the allotment, which can adversely affect native species plant growth and seed production. Overall, this grazing regime results in no beneficial effects to native species production. The exclusion periods do not apply to the mountain pasture as there are no desert tortoises there. Therefore, effects of grazing in this area are similar to the proposed action.

The Kynna and Lower Rattle springs would be fenced off to protect them from cattle impacts.

Impacts to federally listed plant species would remain the same; fences that segregate these species from grazing would remain in place.

c. Impacts of the No Grazing Alternative

Under this alternative livestock grazing on this allotment would cease. This would have a positive impact to native plant communities within the allotment boundaries; the desert tortoise would benefit from not having to compete for forage species in the desert pasture (see section R.2, Desert tortoise). Grazing pressure in this allotment is primarily confined to portions of the allotment that are serviced by existing water developments, so immediate improvements to the native vegetation component would be most evident in these areas initially.

Even though there would no longer be livestock grazing, the invasive, non-native species component of allotment vegetation would experience a short-term net increase in both the number of non-native plants and the amount of seed being contributed to the seed bank because there would no longer be livestock to graze them. In the longer term, invasive non-native species would decrease because a major source of seedbed preparation—the livestock--would no longer be on-site to disturb the soil surface. Physical weed seed spread by livestock would no longer occur.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to allotment land.

e. Maps

None

f. References

Belsky, A. J. and J.L. Gelbard. 2000. Livestock Grazing and Weed Invasions in the Arid West.

Oregon Natural Desert Association. Bend, Oregon.

Boarman, W. I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U. S. Geological Survey, Western Ecological Research Center, San Diego, California.

Letter to Roxie Trost, BLM Barstow Field Office Manager. 2006. Center for Biological Diversity. December 1, 2006. Tucson, Arizona.

Livingood. J. 2006. Personal communication. Geologist, Barstow Field Office, Barstow, California.

U.S. Bureau of Land Management. 2001. Biological Evaluation on Effects of CDCA Plan as Amended and Proposed to be Amended by the NEMO and NECO Preferred Alternatives and with Other Interim Measures on Ten T&E Plants. California Desert District. Riverside, California.

U.S. Fish and Wildlife Service. 2003. Biological opinion for the California Desert Conservation Area Plan [Parish's Daisy, Cushenbury Buckwheat, Cushenbury Milk-vetch, and Cushenbury Oxytheca] (1-8-01-F-68). Ventura Fish and Wildlife Office, Ventura, California.

I. RECREATION

1. Affected Environment

The allotment does not lie within a Special Recreation Management Area. However, it is in a popular transition area between desert and mountains and provides a link to the San Bernardino National Forest recreational trail network. A number of routes designated open in WMP pass through the area, making it an important "gateway" to provide access to points of interest west of Highway 247. Casual use of the area by individuals and family groups is common, particularly on weekends. The most common recreation activities are jeep tours through Rattlesnake Canyon, bird watching, hiking, photography, equestrian use, upland game hunting (in season), and general touring. There is a modest amount of camping that takes place throughout the area. The south boundary fence is occasionally cut by OHV riders, a conflict that allows the lessee's cows to wander off of the allotment.

2. Environmental Consequences

a. Impacts of the Proposed Action

There would be no exclusion periods to keep portions of the desert pasture free of cattle for a portion of the year. Because of changes in distribution, recreationists would be more likely to encounter cattle in the western portion of the allotment and less likely to encounter them in the eastern portion.

b. Impacts of the No Action Alternative

During the exclusion periods in the desert pasture, there is less contact between recreationists and livestock (none in the western part of the pasture). Conversely, there may be more contact in the eastern part of the pasture during exclusion periods. The exclusion periods also overlap with more favorable weather patterns when the heaviest outdoor recreation use occurs.

c. Impacts of the No Grazing Alternative

There would be no impacts to outdoor recreation from the complete and permanent removal of livestock from the allotment.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to allotment lands.

e. Maps

None

f. References

None

J. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

The project area for the purpose of this analysis is San Bernardino County. The allotment is located in rural San Bernardino County. The allotment is primarily operated by the lessee, who may hire local labor on a seasonal basis. This labor typically consists of one to three persons.

The contribution of this allotment to the goods and services of the area is nominal. The sale of calves at the stock yard by the lessee benefits the financial needs of the lessee, as any small business would, and allows them to purchase goods and services for their grazing operation and personal household. This operation is considered small and its effect on the general economy is minor.

2. Environmental Consequences

a. Impacts of the Proposed Action

Under the proposed action, grazing would continue at a stocking rate prior to interim measures (see Table 1). These levels are at their lowest point when compared to historic levels, and are

expected to continue to decrease. This grazing operation would continue to have a nominal influence on the local and regional economy of San Bernardino County.

b. Impacts of the No Action Alternative

Under this alternative, impacts to social and economic values would not appreciably change from the proposed action.

c. Impacts of the No Grazing Alternative

Under the no action alternative, impacts to regional social and economic values would be the same as the proposed action. Individual adverse impacts could occur to the lessee, based on the loss of income associated with ranching activities. These losses could be at least partially offset by gains from the sale of range improvements and other ranching related equipment.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

None

f. References

U.S. Department of the Interior. 2001. Office of Hearings and Appeal. Richard Blincoe and Blinco Farms, Inc. et al v Bureau of Land Management. CA-690-01-01. Administrative Law Judge Sweitzer.

K. SOILS

1. Affected Environment

The allotment includes the Ramona Association (well-drained, very deep, coarse sandy loam), the Arizo-Daggett Association (excessively drained and somewhat excessively drained, very deep, gravelly soils), and the Rock Land Association (dominantly exposed bedrock and very large boulders). Erosion potential of these soils ranges from slight to moderate. There are no identified erosion problems on the allotment.

BLM conducted rangeland health assessments on the allotment during 1998-1999. Specific soils standards relating to permeability and infiltration were being met at that time.

a. Biological Soil Crusts

The open space between higher plants is not generally bare of all life. Highly specialized organisms can make up a surface community that may include cyanobacteria, green algae, lichens, mosses, microfungi and other bacteria. Soils with these organisms are often referred to as cryptogamic soils, and form what is referred to as biological crusts.

The 1998-1999 rangeland health determination (Attachment A) on the allotment notes that cryptogams and microphytes (biological soil crusts) were present throughout the mountain pasture and in the west portion of the desert pasture. Some of the biological soil crusts (BSCs) in the mountain pasture were fragmented by cattle hoof action, whereas in other locations of the mountain pastures and in the desert pasture the BSC were intact. BSCs populations have been identified in portions of the allotment that are not typically grazed by livestock. These populations are generally small and scattered. Distance to developed water appears to be the determining factor; the further from water, the less fragmented the BSCs were.

In general, cyanobacteria and microfungal filaments weave through the top few millimeters of soil and aid in holding loose soil particles together forming a biological crust which stabilizes and protects soil surfaces. The biological crusts aid moisture retention, "fix" nitrogen, and may discourage the growth of annual weeds. Below the surface, the soil flora grows various rhizimes, hyphae, and filaments that further bind the soil together. Most biological crust organisms make their growth during cool moist conditions. The intermountain region of the western U.S. has many-extensive complex crusts. Many of those areas are so fragile that even casual foot traffic can cause extensive damage. Many of the intermountain areas have fine textures soils, cooler climates and summer rains which are conducive to crust development.

As a contrast, the western Mojave desert has coarse-textures soils, high temperatures, little summer rain and very high potential evapotranspiration potential (PET). According to Belnap (2003, 2005) "less stable, coarse-textured soils often support only highly mobile, large filamentous cyanobacteria (such as *Microcoleus* spp.)." She also observes that (2003 and 2005), "Cyanobacteria heavily dominate crusts of hot desert sites (Sonoran, Mojave and Chihuahuan) where PET is high." She further indicates that some hot desert sites may not support biological crusts (Belnap 2005). The latest data, Belnap (2003 and 2005) and BLM 2001, indicates that the likelihood is that they would be simple crusts that are highly mobile and quick to recover from disturbance. Although the allotment is in a transitional zone between the hottest portion of the Mojave Desert and the more intermountain-like or even montane vegetation types of the mountains to the south, the discussion above is very much the case here.

The previous paragraph is also consistent with the findings of the rangeland health assessment on the allotment (and field observations in the other cattle allotments as well) (Chavez 2006). No species-specific mapping of the allotment has been conducted for biological crusts. All data collected has been associated with rangeland health evaluation and random spot observations.

2. Environmental Consequences

a. Impacts of the Proposed Action

Under the proposed action, livestock grazing on the allotment would continue to have a

localized, negative effect on soils associated with congregation areas such as watering sites. This alternative will result in better distribution of grazing throughout the desert pasture, which would likely prevent fragmentation of BSCs.

b. Impacts of the No Action Alternative

With livestock use distributed unevenly in the desert pasture because of the exclusion periods, the likelihood of impacts to BSCs would be greater in the eastern portion of the pasture. Otherwise, unavoidable localized impacts to soils near water sources would be the same as the proposed action.

c. Impacts of the No Grazing Alternative

Under the no grazing alternative livestock grazing would cease. There would be positive impacts to soils in congregation areas because they would be allowed to de-compact. Any threat to BSCs (if present) from fragmentation and/or destruction by grazing would cease. The healing process for BSCs is generally fairly quick in the West Mojave climate.

d. Consultation

Not applicable.

e. Maps

See Soil Conservation Service 1978.

f. References

Belnap, J and O. L. Lange. 2003. Biological Soil Crusts: Structure, Function and Management. Springer, New York

Chavez, Remijio. 2006. Personal communication. Rangeland Management Specialist. U.S. Bureau of Land Management. Barstow Field Office. Barstow, California.

U.S. Soil Conservation Service. 1978. Soil Survey of San Bernardino County, California – Mojave Desert Area

L. WASTE, HAZARDOUS OR SOLID

The proposed action or any alternative would have no affect on hazardous and solid wastes on public lands as no hazardous wastes are present in or adjacent to the Rattlesnake Canyon grazing allotment, and agricultural solid wastes are not managed as an environmental contaminant under federal or State law, except at confined animal facilities. Under 41 CFR 261.4 (b), *Identification and Listing of Hazardous Waste,* the EPA has determined that the raising of animals, including animal manures are solid wastes that are exempt from consideration as hazardous wastes if returned to the soils.

Use of agricultural solid wastes, including manure, is managed pursuant to State and local law under the Resource Conservation and Rehabilitation Act of 1976, as amended (RCRA), implementing regulations (RCRA Subtitle D). California has issued joint California Integrated Waste Management Board/State Water Resources Control Board regulations (Division 2, Title 27). Use of non-hazardous decomposable waste is generally exempt from these regulations. The Regional WQCB may issue waste discharge requirements or reclamation requirements to cover such materials, and has done so for confined animal facilities such as feed lots and poultry farms. Since agricultural solid wastes from free-roaming cattle are not managed by federal or State law, any site-specific impacts associated with free-roaming cattle are addressed in the context of water quality in this analysis.

M. WATER QUALITY, SURFACE AND GROUND WATER

1. Affected Environment

There are seven developed water sources on public land that provide surface water to livestock on the allotment being analyzed in this document; all are developed springs. Most but not all have been fenced or are sufficiently naturally impenetrable to protect water quality and riparian habitat. At all of the developed springs, water has been piped away from the source to troughs for consumption by livestock and wildlife. Very limited water quality and flow data has been collected at any of these sources. None of the spring sources are associated with human consumption, or are required to meet drinking water standards. None of the spring sources are known to provide habitat for any federally listed species.

Table 7. Water Quality

Spring Source/Type	Currently Used by Livestock	Water Quality Data Available	Source Protected
Viscera Spring	Yes	Yes, limited	Yes
Two – Hole Spring	Yes	No	Yes
Mound Spring	Yes	Yes, limited	Yes
One – Hole Spring	Yes	No	Yes
Rattlesnake Spring	Yes	No	Yes
Dove Spring	Yes	No	No
Vaughn Spring	Yes	Yes, limited	Yes

The BLM is working with Lahontan Regional Water Board to develop a Management Agency Agreement for non-point sources on public lands to address water quality issues. Upon agreement by both agencies, relevant portions of the Management Agency Agreement would be incorporated into the grazing lease to address any remaining water quality issues or conflicts. A draft of this agreement is anticipated this year.

The Lahontan Basin Plans identifies beneficial uses (chapter 2) and water quality objectives (chapter 3) for the surface waters in the allotment. The basin plan lists specific beneficial uses as standards to maintain or meet. For many of the sources, the plan states that beneficial uses includes municipal, agricultural, ground water recharge, recreation 1 & 2, warm water fisheries,

cold water fisheries and wildlife.

The Clean Water Act and EPA classify water pollution from rangelands as non-point source pollution (NPS). Management of NPS is through a series of management practices called best management practices (BMP). According to EPA, "The restoration or protection of designated water uses is the goal of BMP systems designed to minimize the water quality impact of grazing and browsing activities on pasture and range lands." Management practices can minimize the delivery and transport of pollutants to surface and ground waters. According to EPA, management practices control the delivery of NPS to receiving water resources by:

- minimizing pollutants available;
- retarding the transport and/or delivery of pollutants; and/or,
- remediating or intercepting the pollutant before or after it is delivered to the water resource.

EPA has produced guidance titled National Management Measures to Control Non-Point Pollution from Agriculture. In that document section 4E addresses grazing management. The following grazing management measure is taken from that document:

> "Manage Rangeland, pasture and other grazing lands to protect water quality and aquatic and riparian habitat by:
>
> 1. improving or maintaining the health and vigor of selected plant(s) and maintaining a stable and desired plant community while, at the same time, maintaining or improving water quality and quantity, reducing accelerated soil erosion, and maintaining or improving soil conditions for sustainability of the resources. These objectives should be met through the use of one or more of the following practices:
>
> a. maintain enough vegetative cover to prevent accelerated soil erosion due to wind and water;
>
> b. manipulate the intensity, frequency, duration and season of grazing in such a manner that the impacts to vegetation and water quality will be positive;
>
> c. ensure optimum water infiltration by managing to minimize soil compaction or other detrimental effects;
>
> d. maintain or improve riparian and upland vegetation;
>
> e. protect stream banks from erosion;
>
> f. manage for deposition of fecal material away from water bodies and to enhance nutrient cycling by better manure distribution and increased rate of decomposition; and,

g. promote ecological and stable plant communities on both upland and bottom lands sites.

2. excluding livestock, where appropriate, and /or controlling livestock access to and use of sensitive areas, such as stream banks, wetlands, estuaries, ponds, lake shores, soils prone to erosion, and riparian zones through the use of one or more of the following practices:

a. use of improved grazing management systems (e.g. herding) to reduce physical disturbance of soil and vegetation and minimize direct loading of animal waste and sediment to sensitive areas;

b. installation of alternative drinking water sources;

c. installation of hardened access points for drinking water sources;

d. placement of salt and additional shade, including artificial shelters, at locations and distances adequate to protect sensitive areas;

e. provide stream crossings, where necessary, in areas selected to minimize the impacts of the crossings on water quality and habitat; and,

f. use of exclusionary practices, such as fencing (conventional and electric), hedgerows, moats and other practices as appropriate

and

3. achieving either of the following on all rangelands, pastures and other grazing lands not addressed above:

a. apply the planning approach of the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) to implement the grazing land components in accordance with one or more of the following from NRCS: a Grazing Land Resource Management System (RMS); National Range and Pasture Handbook (USDA-NRCS, 1997b); and NRCS Field Office Technical Guide, including NRCS prescribed Grazing 528A;

b. maintain or improve grazing lands in accordance with activity plans or grazing permit requirements established by the Bureau of Land Management, the National Park Service, or the Bureau of Indian Affairs of the U.S. Department of Interior, or the USDA Forest Service; or other federal land manager."

The text in number 3 above is included in the state of California guidance called California Non-Point Source Encyclopedia (SWRCB 2004) updated July 2004.

2. Environmental Consequences

a. Impacts of the Proposed Action

There are no known negative affects to water quality at the developed water sources available to livestock. Most of the sources are protected from contamination from livestock by fencing or natural/man-made features and the water is piped to a trough. There are no known levels of surface water contamination resulting from this access; however unidentified levels of fecal coliform contamination are possible. There may be some level of "de-watering" associated with providing drinking water to livestock from springs with finite sources. However, this allotment receives regular surface recharge from mountain runoff, and overall impacts to water quantity within watersheds that overlap allotment boundaries from cattle grazing operations on public land is considered nominal

A program-wide water quality monitoring strategy has yet to be adopted for the Barstow Field Office. Best Management Practices (BMP) for water quality are being developed for public lands in California, including the California Desert District (CDD) and would be adopted upon approval. Regional Rangeland Health Standards, which include a standard for water quality, have been approved by the State Director for the CDD which include the allotment being analyzed in this document.

Under the proposed action, natural water sources available to livestock will be evaluated for threats to water quality and riparian values. The appropriate management action(s) would be implemented based on the specifics of the situation, including, but not limited to, actions such as fencing, placement of additional troughs and re-design of the facility.

b. Impacts of the No Action Alternative

Under this alternative, impacts to water quality would not appreciably change from the proposed action.

c. Impact of the No Grazing Alternative

Under the no grazing alternative livestock grazing on this allotment would cease. It is unknown at this time if BLM would continue to maintain these waters for wildlife purposes. The de-watering of these springs could continue. Water developments owned by the lessee would most likely be abandoned, scraped and not maintained. Any threats to water quality from livestock grazing would cease.

d. Consultation

BLM is consulting with the Lahontan Regional Water Quality Control Board to develop a Management Agency Agreement for non-point sources on public lands to address water quality issues.

e. Maps

None

f. References

Regional Water Quality Control Board. 1994. Water Quality Control Plan for the Lahontan Region. California Regional Water Quality Control Board, Lahontan Region. South Lake Tahoe and Victorville, California.

State Water Resources Control Board. 2004. California Non-Point Source Encyclopedia. California State Water Resource Control Board. At Sacramento, California.

U.S. Bureau of Land Management. 1980b. California Desert Conservation Area Plan. Riverside, California.

U.S. Bureau of Land Management. 1980c. California Desert Conservation Area Plan Appendix XIII: Livestock Grazing. Riverside, California.

U.S. Environmental Protection Agency. 1982. Grazing Non-point Source Control Strategy. Environmental Protection Agency, Region VIII. Denver, Colorado.

U.S. Environmental Protection Agency. 2004a. National Management Measures to Control Non-Point Source Pollution from Agriculture. At Washington, D.C.

U.S. Environmental Protection Agency. 2004b. Polluted Runoff (Non-Point Source Pollution). At Chapter2/ch2-2e.html. Washington, D.C.

N. WETLAND / RIPARIAN ZONES

1. Affected Environment

Natural water sources occur on the allotment; as is typical throughout the Mojave Desert the water sources are seeps and springs which need special protection. The CDCA Plan and WMP classify desert wetlands and riparian zones as Unusual Plant Assemblages, subject to additional protection.

Vegetation associated with the springs generally consists of small herbaceous plants, but may include riparian shrubs and trees. These species include inland saltgrass (*Distichlis spicata),* sedge (*Carex* spp.), bulrushes (*Scirpus* spp.), coyotebrush (*Baccharis* spp.), and willows (*Salix* spp.). Springs provide much-needed water to wildlife species that require a permanent water source; both game and non-game species routinely visit springs in the desert. Endemic microfauna inhabit these rare water sources.

Most but not all of the wetland areas (springs) on the allotment have been assessed using a modified monitoring tool that is ordinarily used to evaluate proper functioning condition at lentic (lake, pond) water sources. This method uses a standardized, qualitative method called “proper

functioning condition" (PFC) (Prichard 2003). The PFC method separates wetlands into three major components: hydrology, soils, and vegetation. Each component is addressed according to its site potential. Together, these three components are examined by an interdisciplinary team to assess the "functionality" of the physical processes of a spring. Functionality is described using four specific terms: functional (F), functional at risk (FAR), non-functional (NF), and unknown (UK). These terms are defined below:

Functional (PFC) - A riparian-wetland area has adequate vegetation, landform, or debris is present to: dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality.

Functional at Risk- Riparian-wetland areas that are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation. The functional at risk term is further defined with an indication of trend either downward or upward.

Non-functional- Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or debris to dissipate stream energy associated with high flows, and thus are not reducing erosion, improving water quality, etc.

Unknown- No PFC assessment has been carried out, or the interdisciplinary team was unable to determine the PFC status.

Several springs and creeks have been evaluated using PFC methodology on the allotment (during the 1998-1999 rangeland health evaluation). Evaluated springs have been compiled in Table 7 depicts the results of PFC assessments on the allotment (Pritchard 2003).

Table 8. Proper Functioning Condition of Evaluated Waters on Rattlesnake

Spring Name	PFC Completed?	PFC Rating	Cattle Excluded?
Vaughn	Yes	FAR – Upward Trend	Yes
Lower Rattle	Yes	Non-functional	No
Mound	Yes	FAR – Static	Yes
One Hole	Yes	FAR – Upward Trend	Yes
Two Hole	Yes	FAR – Static	Yes
Rattlesnake	Yes	FAR – Upward Trend	Yes
Kynna	Yes	FAR – Downward Trend	No
Dove	Yes	PFC	Yes
Willow	No	UK	Yes

The 1998-1999 rangeland health assessment and other monitoring studies (including condition and trend) identified the effects of livestock grazing on allotment vegetation. The assessment teams compared indicators of resource conditions to the National Fallback Standards, and after a review of other indicators and conditions, recommended continuation or modification to current grazing management or other practices. These recommendations were finalized with the signing of a determination by the Barstow Field Manager.

On the Rattlesnake Canyon Allotment, three Standards were not met. (The Native species standard was discussed in Section H.). The riparian / wetland standard was not met at 6 riparian areas (7 springs) totaling less than 20 acres, at One-Hole Spring, Kynna Spring, Bighorn Seep 1 and Bighorn Seep 2, Vaughan Spring, Dove Spring, and Lower Rattle Spring.

A strategy was developed to protect the springs by fencing cattle out of the springs and, as needed, re-routing pipelines, moving or adding troughs, and installing float valves. These protective measures have already been completed at Dove Spring in the desert pasture. Fencing alone, with no other alterations, has been constructed to protect Mound, One-Hole, and Vaughan springs. Impacts described above still occur at troughs but **are not degrading the springs and the surrounding riparian vegetation** adjacent to these springs. The other 2 springs (Kynna, Lower Rattle) await installation of protective fencing; the fence installations are not yet scheduled.

The stream morphology standard was judged to not be progressing toward meeting standards; however, cattle grazing was not considered to be the cause.

2. Environmental Consequences

a. Impacts of the Proposed Action

Kynna and Lower Rattle springs are not protected from livestock; protective fencing has not yet been installed. Therefore, at these springs, vegetation is being trampled by cattle, which has caused decreased plant vigor and will eventually lead to outright elimination of vegetation adjacent to the springs (a complete contrast to what should be a microhabitat with robust vegetation and its own "wet" microclimate). Hoof action at these locations has created divots ("punching") in the wet soils, which is causing increased erosion, and is likely adversely affecting water quality (no water sampling has occurred to verify this to date). These negative impacts of cattle intrusion at the springs will be eliminated once protective fencing is installed to keep the cattle away from the springs.

b. Impacts of the No Action Alternative

Under the no action alternative, impacts to wetlands/riparian habitat would be the same as the proposed action. Springs not yet fenced to protect them from livestock would be fenced.

c. Impacts of the No Grazing Alternative

Under the no grazing alternative, impacts to wetlands/riparian habitat from livestock would no longer occur. Proper functioning condition at the springs that were failing PFC during the 1998-1999 rangeland health assessment would quickly heal and meet the PFC standard.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to allotment lands.

e. Maps

None

f. References

Prichard, Don. 2003. A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas. TR 1737-16. Bureau of Land Management. BLM/RS/ST-03/001+1737, Denver, Colorado. .

O. WILD AND SCENIC RIVERS

There are no wild and scenic rivers on or adjacent to the allotment.

P. WILDERNESS

1. Affected Environment

Livestock grazing in wilderness is in conformance with the Wilderness Act of 1964 and the California Desert Protection Act of 1994 (CDPA). Section 4(D) (4) of the Wilderness Act states, "the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture." Section 103(c) of CDPA contains similar language in reference to livestock as that of the Wilderness Act. The grazing of livestock in BLM wilderness areas is regulated under 43 Code of Federal Regulations (CFR) 6304.25, and guided by BLM manual 8560.15 (G). BLM manual 8560.15 (G) states, "Congressional guidelines regarding "Grazing in National Forest Wilderness Areas," published in House Report 96-1126, dated June 24, 1980, must be implemented in all BLM-administered wilderness with pre-existing grazing." These guidelines state, "The maintenance of supporting facilities, existing in an area prior to its classification as wilderness, is permissible in wilderness. Where practical alternatives do not exist, maintenance or other activities may be accomplished through occasional use of motorized equipment." The grazing of livestock in BLM California Desert District wilderness areas is guided by Annex 1 of the management policy *Principles for Wilderness Management in the California Desert* (Bureau 1990a).

The Bighorn Mountains Wilderness covers approximately 41% (11,388 acres) of the allotment. Access to the Wilderness can be made from several locations within and from outside the Wilderness boundaries. The Rattlesnake Canyon non-wilderness corridor connects the allotment desert and mountain pastures; non-motorized access can be made into the Wilderness from the corridor itself as well. Livestock, as noted above, can drift in and out of the corridor and from the mountain pasture into Wilderness, and in fact have unfettered access. The livestock are not drawn to the area by developed water, as there are no developed waters in the wilderness; they may use undeveloped springs.

2. Environmental Consequences

a. Impacts of the Proposed Action

The impacts to the Bighorn Mountains Wilderness from grazing would be the same as what occurred prior to the passage of CDPA and were described in the affected environment section.

The reduction in the utilization thresholds on perennial forage to 25% (desert pasture) or 30% (mountain pasture) during the growing season would be beneficial to the "naturalness" of the affected wilderness by helping to protect the natural composition of vegetation communities. Due to the lack of developed or perennial water sources in this wilderness, grazing is primarily in the winter/spring months at light stocking rates.

b. Impacts of the No Action Alternative

Under this alternative, impacts to wilderness would not be appreciably different from the proposed action.

c. Impacts of the No Grazing Alternative

Under the no grazing alternative livestock grazing on the allotment would cease. There would be no continuation of impacts as described under the proposed action.

If the allotment was voluntarily relinquished, the Bighorn Mountains Wilderness would benefit. The "naturalness" of the area would no longer continue to be impacted by the presence of a non-native species (cattle) originating from public lands. The opportunity for recreationists to experience the Bighorn Mountains Wilderness as an area without evidence of man would increase because the area would no longer be impacted by cattle. The wilderness character and the opportunity for solitude would no longer be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness; opportunities for solitude would and the potential to experience a primitive type of recreation would increase by eliminating the need for ranchers and BLM employees to operate, maintain and administer cattle grazing in wilderness. In addition, since there would not be any future potential to graze cattle in the area, the nearby range improvements could be removed, which would improve the wilderness's naturalness and provide a greater opportunity to experience the area without evidence of man. Overall, the no grazing alternative would promote a more natural condition as defined by Section 2(c) of the Wilderness Act and help insure the preservation of the wilderness character of this designated wilderness.

d. Consultation

Notice of Proposed Action issued on April 5, 2006 to Barstow Field Office's wilderness mailing list.

e. Maps

See Map 1

f. References

Appendix A (Grazing Guidelines) of the Report of the Committee on Interior and Insular Affairs to accompany H.R. 2570 of the One Hundred First Congress (House Report. 101-405).

Frink, David. 2006. Personal communication. Outdoor Recreation Specialist. Bureau of Land Management, Barstow Field Office. Barstow, California.

Public Law 88-577. September 3, 1964. Wilderness Act.

Public Law 101-628. November 28, 1990), section 101(f). Arizona Desert Wilderness Act.

Public Law 104-433. October 31, 1994. California Desert Protection Act.

U.S. Bureau of Land Management. 1980. California Desert Conservation Area Plan. Riverside, California.

U.S. Bureau of Land Management. 1990a. California Statewide Wilderness Study Area Report. Sacramento, California.

U.S. Bureau of Land Management. 1990b. Wilderness "Values" [California Statewide Wilderness Study Area Report, Part 4, Volume 5, CDCA-251, p.6].

Q. WILD HORSES AND BURROS

None of the alternatives would affect wild horses or burros as there are no herd management areas at or near the allotment.

R. WILDLIFE

1. Affected Environment

Common Animals

Common species of animals found in most vegetation communities within the allotment (see Section H, Vegetation) include: woodrats (*Neotoma* spp.), kangaroo rats (*Dipodomys* spp.), white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), black tailed hares (*Lepus californicus*), kit foxes (*Vulpes macrotis*), and coyotes (*Canis latrans*). Common bird species include mourning doves (*Zenaida macroura*), black-throated sparrows (*Amphispiza bilineata*), common ravens (*Corvus corax*), and horned larks (*Eremophila alpestris*). Some common reptiles include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), gopher snake (*Pituophis melanoleucus*), and the Mojave rattlesnake (*Crotalus scutulatus*).

BLM Sensitive Wildlife Species

Several sensitive wildlife species are found on the allotment. Their regulatory status and habitat preference are indicated in Table 8. Three of these species, golden eagle, prairie falcon and bighorn sheep, are associated with mountainous terrain and can be found on or near the mountain pasture and Rattlesnake Canyon. The allotment contains a historic bighorn sheep range, the Bighorn Mountains, but evidence of their presence today other than merely passing through the area, does not exist (Bleich 2006, pers. comm.).

Table 9. Sensitive Wildlife Species Within Rattlesnake Canyon Allotment

Species Name	Regulatory Status	Preferred Habitat
Bighorn Sheep (*Ovis Canadensis nelsoni*)	BLM Sensitive	Steep Mountainous Terrain
Golden Eagle (*Aquila chrysaetos*)	BLM Sensitive; California Fully Protected	Mountainous Terrain, Cliffs
Prairie Falcon (*Falco mexicanus*)	California Species of Special Concern	Mountainous Terrain, Cliffs
LeConte's Thrasher (*Toxostoma lecontei*)	California Species of Special Concern	Creosote Bush Scrub, stands of cholla, Joshua trees, and thorny shrubs
Burrowing Owl (*Athene cunicularia*)	California Species of Special Concern	Creosote bush scrub

Threatened or Endangered Species

The desert tortoise is widely distributed across the California desert and is known to occur on the allotment desert pasture. Field surveys have been conducted throughout the California Desert since the desert tortoise was listed.

The desert tortoise was listed as threatened in 1990 by the Fish and Wildlife Service and has been listed as threatened by the California Department of Fish and Game since 1989. The Bureau categorized desert tortoise habitat into three categories named I, II, and III (BLM and CDFG 1992). The U.S. Fish and Wildlife Service designated critical habitat for the desert tortoise in 1994. The categories are placed in only two categories by WMP; habitat inside a DWMA and habitat outside a DWMA. The allotment lies entirely within non-DWMA habitat; the desert pasture is suitable habitat for the species.

The U.S. Fish and Wildlife Service notes in the WMP BO (2006) that, "The Rattlesnake Canyon Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises occur here in low densities, most likely because this area occurs at the edge of their range in this portion of the desert and most of the allotment is located at higher elevations. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise."

Limited suitable habitat exists, near Vaughan Spring in the mountain pasture that could support migrant least Bell's vireos and/or southwestern willow flycatchers. Presence surveys have not been conducted to confirm whether these species use this habitat; it is very unlikely that these species nest here, but the (640-acre) section at the extreme south end of the allotment, which was confirmed as part of the allotment by WMP, may provide nesting habitat.

2. Environmental Consequences

a. Impacts of the Proposed Action

Common Animals

Most wildlife species are mobile and can avoid being trampled by cattle. Impacts to wildlife are typically indirect. In general, cattle impact wildlife indirectly by modifying the habitat on which wildlife depends for food, shelter, and cover. Throughout this allotment, on at least a localized basis, cattle have modified habitat by disrupting soils and damaging vegetation at water sources and other livestock congregation areas. Soils have been impacted through hoof shearing and by soil compaction. Vegetation has been removed by trampling, overgrazing, and by literally being pulled out of the ground. These impacts are most profound near salt licks and watering sources, where cattle congregate. There is also soil compaction along cattle trails, however this compaction is very localized and limited and the impact to common animals is generally negligible. These impacts would continue.

The impacts at water sources have been partially mitigated by fencing off several of the springs at which cattle water. The effort to fence off these water sources would continue under the proposed action, which would be beneficial to wildlife and livestock in that livestock could continue to water, but without damaging the very water source(s) upon which many common wildlife species may be very dependent. .

Desert Tortoise

Literature regarding direct and indirect impacts of livestock grazing to rangeland and desert tortoise habitat has been critically reviewed in an unpublished document by the U.S. Geological Survey (Boarman 2002). The critical review analysis reported a paucity of information available on the effects of grazing on the Mojave ecosystem. A brief summary of that review follows below.

Indirect impacts to tortoise habitat were evaluated by reviewing studies on livestock grazing effects on plant communities in other arid and semi-arid regions. Direct impacts were evaluated by reviewing reported observations and anecdotes. Potential indirect impacts include: an altered plant community structure, soil compaction, and increased fugitive dust and erosion. These impacts are evident in high-use areas on the desert pasture.

Boarman (2002) notes that little information was found describing direct impacts to desert tortoises except that some accounts reported that livestock have crushed juvenile tortoises by stepping on them. Also, it has been reported that livestock have crushed tortoise burrows

resulting in injured tortoises or a damaged burrow. In-depth research on the direct impacts of livestock grazing on tortoise appears to be lacking; no evidence of these impacts having occurred on the desert pasture exists. (Desert tortoises are not found on the mountain pasture, and if present in Rattlesnake Canyon per se, would only be at the extreme north or lower end of the canyon.) The proposed action would not likely change the amount of, or potential for, these seemingly rare direct impacts.

The requirement that ephemeral vegetation exceed 230 pounds per acre before cattle are allowed to graze in desert tortoise habitat benefits the desert tortoise; at less than 230 pounds competition for this vegetation by cattle and desert tortoises could be severe (U.S. Fish and Wildlife Service 1994). This threshold "is intended to avoid competition between cattle and (desert) tortoises in years of poor rainfall and plant growth (WMP 2005)."

A new term and condition under the proposed action is the requirement that the lessee report to BLM the sighting of any injured and dead desert tortoise. These reports would be followed up by an investigation on the cause of injury or mortality. This requirement would assist BLM in compiling the number of discoveries and generating a report to the USFWS. The circumstances of desert tortoise deaths or injuries would be analyzed by BLM and USFWS regarding whether livestock are directly involved with desert tortoise mortality on the desert pasture. Additionally, USFWS would then make a determination of whether reinitiating of formal consultation would be appropriate. As such, information could become available about actual direct impacts that to date have not been reported but need to be factored into on-going and future management decisions.

Other

The status of the least Bell's vireo and southwestern willow flycatcher in the southern portion of the allotment is unknown. Protocol surveys to determine if the least Bell's vireo and the southwestern willow flycatcher nest in riparian areas in this part of the allotment would fill an important data gap and provide BLM with affirmative data to adjust grazing, if needed, to protect these species locally and accommodate their recovery.

b. Impacts of the No Action Alternative

Aside from the season(s) of use, compared to the proposed action the no action alternative would make little difference in impacts to common wildlife or sensitive species from grazing on the desert pasture. The effort to protect and segregate water sources from livestock would continue under the no action alternative as well, with similar anticipated positive effects to those discussed under the proposed action.

The desert tortoise would continue to be subject to cattle exclusion periods that do not benefit the species on the west end of the pasture. The east end of the pasture, where polygons 5 and 6 were identified in 1999 as failing the native species standard of rangeland health analysis, and where the highest concentrations of desert tortoise on the allotment exist, would be subject to heavier grazing pressure because of the exclusion periods on the west end of the pasture. The mix of native vegetation upon which desert tortoises thrive would continue to be converted to a

landscape of native shrubs and non-native invasive herbaceous species in the east portion of the pasture.

c. Impacts of the No Grazing Alternative

Under the no grazing alternative, livestock grazing on this allotment would cease. Adverse impacts caused by grazing to native plant communities, water sources, and habitat of the desert tortoise would end.

This would be a substantial positive impact for the desert tortoise population on the desert pasture, both in the short term through elimination of potential direct effects and increased forage availability for the desert tortoise, and in the long term through overall enhancement of desert tortoise habitat. There would be an end to competition for the same herbaceous vegetation upon which the desert tortoise depends and cattle seek out when available; the greatest benefit to the desert tortoise would occur during years when annual herbaceous vegetation is scarce because of limited precipitation.

Throughout the allotment, developed water sources would no longer be available to wildlife. The relative abundance of springs on the allotment would mitigate the loss of the water developments per se; the springs that have been developed would still be available, only in undeveloped form. Wildlife would not be forced to seek water elsewhere. After a brief adjustment period during which some of the more disturbance-averse species (i.e., some birds) become accustomed to the absence of cattle, no discernable effects to wildlife would occur.

d. Consultation

The BLM conducted formal consultation USFWS on five occasions (from 1993 to 2006) on the effects of livestock grazing on the desert tortoise and its critical habitat. BLM proposes to issue grazing leases under the most recent biological opinion (WMP), dated January 9, 2006.

e. Maps

None

f. References

Bleich, Vern. 2006. Personal communication. Wildlife Biologist. California Department of Fish and Game. Bishop, California.

Boarman, W.I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U. S. Geological Survey, Western Ecological Research Center. San Diego, California.

U.S. Bureau of Land Management and California Department of Fish and Game. 1992. California Statewide Desert Tortoise Management Policy. Official policy signed in 1992

by the District manager and State Director of the BLM and Regional Managers (Regions 4 and 5) and the Director of the CDFG.

U.S. Fish and Wildlife Service. 1994. Biological opinion for the Bureau of Land Management's interim livestock grazing program in Mojave desert tortoise critical habitat (1-8-94-F-107). Memorandum from Regional Director, Region 1 to State Director, Bureau of Land Management, Sacramento, California. Dated April 20. Portland, Oregon.

U.S. Fish and Wildlife Service. 2002. Biological opinion for the California Desert Conservation Area Plan [Desert Tortoise] (1-8-01-F-16). June 17, 2002. Ventura Fish and Wildlife Office, Ventura, California.

U.S. Fish and Wildlife Service. 2006. Biological opinion for the California Desert Conservation Area Plan (West Mojave Plan) (1-8-03-F-58). Ventura Fish and Wildlife Office, Ventura, California.

CHAPTER 4: CUMULATIVE IMPACTS

Bureau of Land Management regulations implementing NEPA require that the cumulative impacts of a proposed action be assessed. CEQ regulations implementing the procedural provisions of NEPA define cumulative effects as: "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 1507)

This cumulative analysis tiers off of the Cumulative Analysis found in the West Mojave Proposed Plan/Final Environmental Impact Statement (January 2005) for San Bernardino County and adjacent areas. The cumulative analysis in this document therefore does the following:

.
- Briefly summarizes the West Mojave cumulative analysis as it relates to grazing issues;
- Focuses on information from activities other than grazing specifically occurring within the Rattlesnake Canyon Grazing Allotment and that may contribute to cumulative effects from the proposed action or alternatives, as appropriate, and
- Discusses resource-specific cumulative effects for the Rattlesnake Mountain grazing allotment.

Where there has been no change in the previous analysis the conclusions of the previous document are briefly summarized and the reader is referred to the West Mojave Proposed Plan/FEIS for more detail.

a. Summary of West Mojave Plan Cumulative Analysis

The West Mojave Plan described the current environment of the planning area as having been broadly influenced by past activities occurring prior the passage of FLPMA in 1976, such as development of major highways, railroads, and communities in the region. Other important activities related to the baseline condition of the planning area have included the Land Tenure Adjustment Program, mining, military use, recreation, lands actions, wildfire, special area designation and management, and livestock grazing (Proposed Plan/FEIS, Chapter 3).

West Mojave Plan further addressed recent and reasonably foreseeable future changes in land use resulting from FLPMA and other resource management related laws, including State and Federal Endangered Species Acts and the California Desert Protection Act, and the Fort Irwin expansion legislation (Proposed Plan/FEIS, pages 4-135 to 4-141). West Mojave Plan considered BLM's six CDCA regional plan amendments that were approved or under preparation as key determinants of environmental conditions (Proposed Plan/FEIS, pages 4-139 and 4-140).

The West Mojave Plan specifically recognized the cumulative conservation benefits of other past actions by Congress in setting aside large areas within the CDCA for parkland, non-surface disturbing military use, the desert tortoise natural area, and wilderness; benefits derived from designation by U.S. Fish and Wildlife Service of millions of acres of critical habitat in the CDCA. In addition, the West Mojave plan identified benefits resulting from the implementation of management actions established under BLM land use planning for six regional plan areas in

the CDCA. In the West Mojave planning area, these benefits included mineral withdrawals, voluntary grazing relinquishments, elimination of ephemeral grazing, and ACEC management for special status species. The plan also acknowledged cumulative adverse impacts, particularly to wildlife in incidental take areas, from factors such as urban-interface conflicts, use within adjacent OHV Open Areas, and the Fort Irwin expansion.

The West Mojave Proposed Plan discusses factors that affect both forage availability and use, and grazing use in cattle allotments, including the Rattlesnake Canyon grazing allotment, as well as the cumulative effects of grazing management in the region. These effects are discussed relative to past, present, and reasonably foreseeable actions that would occur as a result of grazing management within the parameters of the West Mojave Plan.

Cumulative effects for the following resources and activities/uses are identified in the West Mojave Plan that also affect or are affected by grazing in the Rattlesnake Canyon grazing allotment: vegetation and wildlife; watershed values, water quality, mineral development, cultural resources; vehicle access; and socioeconomic resources. The cumulative treatment will focus on how the adoption of the proposed action would modify the cumulative effects with respect to these factors.

The cumulative effects region for which effects of grazing management for the Rattlesnake Canyon grazing allotment and other past, proposed, and reasonably foreseeable actions that would be cumulatively recorded or experienced varies by resource as noted herein. There are two main analytical frameworks considered in this cumulative effects analysis of grazing management in the allotment:

- Grazing management activities or activities with similar impacts to grazing management (those activities that can or do modify forage availability and public land health) that are occurring within the allotment and the cumulative effects region;
- Other activities within the allotment that similarly affect (as does grazing management) specific resource values and uses.

b. Past, Present, and Reasonably Foreseeable Actions Affecting the Rattlesnake Canyon Grazing Allotment

One of the CDCA Plan (1980) decisions included designations of allotments and associated levels of AUM (numbers of animals). Allotment management plans were developed for each allotment to manage livestock and use of resources associated with grazing. These allotments and associated animal numbers were reviewed in the West Mojave Plan (2005) and other bioregional plans in Southern California and in some cases, boundaries or uses were modified or eliminated, or AUM were adjusted.

In addition to the activities discussed in the cumulative effects analysis in the West Mojave Plan, there have been substantial actions and proposals that have resulted in or have the potential to add to cumulative impacts for one or more resources being affected by grazing management in the Rattlesnake Canyon grazing allotment. A listing of the most substantial of these follows. Whether or not these are individually mentioned, they have or have the potential to contribute to cumulative effects, based on the amount of land base they may affect or change in land use they

could produce, not only within their boundaries, but regionally (at least indirectly).

- **Bighorn Mountains Wilderness Management parameters**
- **Termination of Closures or Exclusions pursuant to Lawsuit**: Various area or grazing closures or limitations that were put in place pending completion of specific bioregional plans or otherwise fulfilling lawsuit requirements are no longer in effect.
- **Sensitive Species Inventory**
- **Forest Fires**
- **Historic and Current Limestone Mining on the North slope of the San Bernardino Mountains**
- **Continued Development in Victor Valley and Expansion of the Urban Interface Eastward**

The BLM's multiple use mission typically results in a variety of activities that are authorized to occur on the same lands, consistent with designations for geographic-specific planning units within the land use plan (California Desert Plan, 1980, as amended). Cumulative effects that overlap the Rattlesnake Canyon grazing allotment are limited substantially by topography and by the lack of vehicular access due to the relatively large percentage of the allotment that is within designated wilderness.

The Rattlesnake Canyon non-wilderness corridor does provide access throughout the allotment for casual-use recreational activities (i. e. hunting, picnicking, camping, hiking and 4-wheel touring). Due to the rugged condition of the road, most commercial users and vehicles with 2-wheel drive or low clearance cannot utilize this route. Outside of the wilderness, routes of travel have been designated for casual recreational vehicle use to minimize off-route impacts. OHV Open Areas have been designated for organized and intensive recreational uses and other activities compatible with those recreational uses.

The other major use within and adjacent to the allotment is associated with large, patented, limestone mines and claims for ancillary facilities or future mining activity. Mining operations in the CDCA (wilderness, multiple-use class Limited, special areas) require a plan of operations regardless of size, and in any event, where a SMARA plan is required (over 1 acre). These mining activities were occurring in some manner or in existence prior to the development of the CDCA land-use plan, but have expanded substantially in size since that time with increased demand and technological advancements in the industry.

In addition, the CDCA Plan identified and designated several livestock allotments for particular landscapes, including numbers and types of livestock, types of forage management, and grazing seasons of use. Other areas have been identified for sensitive resource protection, special management actions beyond those identified in the CDCA Plan, or to define parameters for areas with potentially conflicting uses.

The Rattlesnake Canyon allotment was one of the allotments designated in the CDCA Plan, and a subsequent allotment management plan was written. Subsequently, new parameters were identified due to the listing of 5 limestone endemic plants and the analysis within the West Mojave Plan. These have been implemented or incorporated into the proposed action for the allotment. Impacts from grazing management may be short term (for example, impacts resulting

from construction of new range facilities) and long term (impacts resulting from continued grazing). Both the short-term and long-term impacts from grazing in the Rattlesnake Canyon allotment are consistent with the analysis of the WMP. When added to effects identified in the WMP and effects of other actions on the allotment, the cumulative impact of the proposed action would not be significant, as summarized below.

c. Resource-specific Cumulative Assessment

This environmental assessment concludes that no significant impact would result from the proposed grazing permit renewals or other alternatives. Impacts to the following 11 critical resources and other resource uses and values of the human environment are minimal, as described below:

1) Areas of Critical Environmental Concern. Affects to specific resources within ACEC that would not affect importance or relevance for ACEC designation are discussed under the appropriate topic.
2) Protection of Native American values has not been identified by tribes as an issue during consultation. Concerns about prehistoric cultural sites were identified by one of the tribes, and are addressed under cultural resources.
3) Environmental Justice issues are not present within the allotment.
4) Prime or unique farmlands are not present within the allotment.
5) Floodplains are not present within the allotment.
6) Hazardous or solid wastes are not present, based on federal and State regulations that are associated with grazing. Affects to water quality from grazing are discussed under that topic.
7) Wild and scenic rivers are not present.
8) Wild horses and burros are not present.
9) Air quality impacts are not contributing to air quality exceedances under any alternatives and are consistent with the State Implementation Plan.
10) Wilderness suitability would not be adversely affected by any alternative. No waters or other range improvements are located within wilderness and Congress found wilderness management consistent with cattle management at the time that it designated the wilderness areas that overlap the allotment. As grazing is proposed at or below the previous levels authorized at the time of the California Desert Protection Act (1994), cumulative impacts from grazing are not anticipated to wilderness, and actually decrease over those present at the time of wilderness designation under some alternatives.
11) Recreational use would not be substantially adversely affected by grazing activities because grazing activities have not affected overall recreational opportunities, impacts from viewing cattle or horses, and associated structures are subjective, and any past, present and reasonably foreseeable cumulative affects from the proposed action on recreation would be nominal.

Impacts described in this EA include insignificant impacts to biological resources, invasive species, cultural resources, social and economic values, soils, water quality, wetlands and riparian areas. These impacts have been determined to be insignificant because both the short-term and long-term impacts are consistent with the analysis of the West Mojave Plan, contributions from grazing are insubstantial as compared to other effects that contribute to

cumulative impacts, and substantial cumulative effects have been offset by substantial positive strategies identified in the WMP. When added to effects identified in the WMP and effects of other actions on the allotment, the cumulative impact of the proposed action would therefore be insignificant as summarized below:

Biological Resources

The past, present, and reasonable foreseeable future cumulative impacts of cattle/horse grazing on wildlife, including the desert tortoise, in the West Mojave Bioregion are anticipated to decrease due to the implementation of the WMP. The proposed voluntary relinquishment of three grazing allotments within desert tortoise habitat, two within critical habitat, totaling over 248,000 acres would reduce the overall cumulative impacts of grazing to wildlife in the West Mojave.

Some wildlife losses will still occur. Slower, less mobile wildlife species such as the desert tortoise may not be able to escape being injured or killed by cattle, particularly because of burrow collapse. The likelihood of such losses is small away from cattle congregating areas (i.e. rangeland waters). In cattle concentration areas, the density and frequency of animals increases the likelihood of direct take.

However, these losses are small when compared to those that may occur from other desert activities, such as direct mortality from fast moving recreational vehicles or construction-related mortality from heavy equipment, as well as periodic natural or arson-set fires. Clearance surveys and seasonal restrictions, fencing, or biological monitors are generally employed to avoid desert tortoise mortalities during range construction or other ground disturbing projects operating in desert tortoise habitat. The most substantial threat to direct mortality of wildlife of all types in this area has been and is likely to continue to come from development activities not on public lands.

Indirectly, casual OHV use, other recreational activities, and development and related construction activities have the potential to degrade habitat by removing vegetation and degrading areas through compaction of soils and elimination of microclimates that facilitate revegetation. In addition, mining actions result in localized areas of intense use (i.e. mining quarries) over long periods of time. Moderate to large quarries can result in substantial loss of habitat. Disturbances from mining and development activities require many years to restore. Evidence from a mining operation that has not been in operation for 10 years is still evident on the edge of the allotment. Grazing in cattle concentration areas, also contributes to these adverse effects to wildlife habitat, although to a minor degree based on their relatively small size. Rehabilitation of such sites generally occurs slowly in the desert, and wildlife habitat may take many years to return to its former productivity, unless degraded areas receive frequent monitoring and additional management inputs at appropriate times.

Two actions in the WMP, the designation of routes and of Carbonate Endemic Plant Conservation Areas along the north slope of the San Bernardinos, will reduce cumulative impacts, including direct plant and wildlife losses immediately and habitat degradation over the long-term. Particularly positive is the impact reduction that occurs from the closure of

substantial mileage of routes. Not only are rehabilitated areas improved, but also additional areas that are no longer readily accessible by vehicle are improved. When rangeland health standards are met throughout allotments, forage is left for herbivorous wildlife, including the desert tortoise, and grazing does not contribute substantially to adverse impacts to wildlife habitat. When rangeland health standards are not met and if wildlife forage species are adversely affected, corrective actions are recommended to avoid long-term cumulative effects to wildlife habitat.

Invasive Species

Past and present grazing practices are one of several activities that have negatively impacted native plant communities on portions of grazing allotments in the West Mojave. As discussed above, there are other activities such as fires, casual use and development and construction activities that occur adjacent to public land that also contribute to the degradation of native plant communities. The most substantial long-term threat may be from periodic fires. Altered (increased frequency) fire regimes appear to be permanently altering vegetation communities and facilitating the establishment and spread of invasive species all along the north slope of the San Bernardino Mountains.

Grazing is a moderate contributor to non-native species spread in this area. Impacts from non-native species are partially offset by invasives management activities and parameters on permits and leases to minimize the potential for non-native establishment and recruitment, such as through planting of native species and spraying areas to prevent non-native establishment.

Cultural Resources

Most known sites that have been adversely affected are as a result of either natural weathering or vandalism. Vandalized sites include prehistoric rock art, historic mining sites, and other cultural resources that have been removed, scratched with hard sharp rock, or had modern graffiti added to obscure the prehistoric or historic cultural values, and sites on the ground that have experienced substantial damage from OHV use off of designated routes. Due to the overall inaccessibility of much of the allotment, effects to cultural resources from these activities have been limited. Where livestock are dispersed or in rock areas without sufficient feed, impacts would be restricted to surface displacement and impacts from grazing are anticipated to be minimal.

Grazing is known to cause movement and mixing of cultural resources in areas where livestock congregate on allotments. Approximately 10% of the known sites are found in active allotments and these sites have been subject to grazing for many years without documented damage. Sites with documented damage from grazing would be fenced or otherwise protected until their importance can be determined, and appropriate mitigation, such as data recovery performed on valuable sites. Only a few sites have documented damage from grazing in the West Mojave, while substantial damage has been documented by vandalism or OHV-related casual use. Impacts resulting from the proposed grazing permit renewal are not expected to add any further adverse impact to known sites. The combined impact would be insignificant, both incrementally and cumulatively, because BLM will implement procedures in accordance with amended 2004

State Protocol Agreement to insure compliance with section 106 of the National Historic Preservation Act.

Social and Economic Values

There would not be substantive cumulative impacts to the local or regional economy of San Bernardino County from the implementation of any of the alternatives. Farming and ranching in the West Mojave in general continue to decrease in land area, numbers of operations, and numbers of animals, regardless of these lease renewals or non-renewals. These downward trends are anticipated to continue in San Bernardino County as in most parts of the country, and are the result of downward pressures on production costs of agricultural products as farm production increases in other parts of the world, as well as regional upward pressures for non-rural development activities for residential and commercial enterprises. The past, present, or future gross domestic product contributions of these operations to the local or regional economy is nominal and is expected to continue to decrease as a percent of the total regional economy.

Soils

These cumulative impacts to soils are similar to those for vegetation. The past, present and in the reasonably foreseeable future cattle grazing operations will continue to have a localized, cumulative impact on soils in congregation areas such as near water sources. Other land uses also contribute to compaction and accelerated erosion but on a broader scale. Due to the overall topography of this allotment, periodic major flooding events may result in substantial loss of topsoil. In addition, periodic fires modify soil structure. Indirectly, casual OHV use, other recreational activities, mining, and development and related activities have the potential to modify soil structure, increasing erosion potential and decreasing re-vegetation potential. Rehabilitation of soil productivity can be enhanced through de-compaction of soils in heavily used areas and providing microclimates for plant seedlings, thereby decreasing erosion potential over the long-term.

Two actions in the WMP, the designation of routes and the limit of surface disturbances within desert wildlife management areas, will reduce cumulative impacts to soils. Particularly positive is the impact reduction that occurs from the closure of substantial mileage of routes. Not only are rehabilitated areas improved by reduced erosion and elimination of compaction, but also additional areas that are no longer readily accessible by vehicle are improved.

Water Quality/Ground and Surface

Perennial water sources are rare in the West Mojave Desert. However, small springs are relatively numerous on the north slope of the San Bernardino Mountains as compared with other parts of the West Mojave. Past grazing practices adversely affected water quality at small isolated springs, primarily from increased dissolved solids and elevating fecal coliform levels. Current grazing practices include measures to protect natural water sources. Those used as watering sites for cattle include pipes and troughs away from the natural water source to protect water quality. These protections would continue in the future under any alternative that authorizes cattle grazing. Past areas adversely affected by grazing either have recovered or are

on the way to recovery. Therefore there are no cumulative effects to water quality from grazing.

Water use and overuse is a substantial issue in the desert. Overall, extractions from aquifers from all sources have been steadily increasing to the point that the aquifers overall may be overdrafted in the Mojave River Basin. The contribution of the livestock industry to regional water use is declining over time, is not a substantial percentage of the total water use, and existed before overdraft conditions began. It is anticipated that this trend will continue. Therefore, from a regional perspective these developments represent a nominal cumulative impact to water resources, and the decreased water use by the livestock industry provides a small offset to increases from other segments of the economy.

Wetlands/Riparian

Riparian areas within the allotment consist of small springs and artificially created or enhanced wells, as well as high-elevation ephemeral drainages. Ephemeral drainages provide some riparian habitat, but due to the aridity of the West Mojave Desert with an average of approximately 6 to 10 inches of rain per year along the north slope. Ephemeral drainages that supply habitat and cover are generally limited to upper elevations where microclimates surrounding higher peaks supply additional localized rain. The Rattlesnake Canyon allotment contains several of these drainages, and they are fed by rainfall in the San Bernardino Mountains. Except for Rattlesnake Canyon, these areas are not readily accessible to most public lands users, and substantial impacts from casual use are not evident.

Springs may occur at any elevation, and can be subject to both man-made and natural impacts. Other activities authorized by BLM are not anticipated to adversely impact most springs since they can no longer be accessed by motor vehicles. There is foot traffic to springs to picnic and enjoy the shade, flora and fauna. Foot traffic also increases in the vicinity of some of the springs during hunting season, but has not resulted in cumulative effects to riparian vegetation. The fencing of springs has reduced impacts from both cattle and humans coming to enjoy what springs have to offer. Earthquakes are a frequent occurrence in the West Mojave and can result in new springs, or an increased or decreased flow at existing springs. In addition, historic and current mining activities have modified vegetation, soils, and chemical characteristics of waters in drainages where tailings have been deposited adjacent to this allotment and in other areas along the north slope of the San Bernardino Mountains.

Springs have been developed and water wells have been dug within the planning area for use by livestock for over 100 years. There have been localized riparian impacts in the past to springs from grazing activities due to trampling and promotion of invasive species, but these impacts do not contribute to effects from other uses in the West Mojave due to fencing and other mechanisms to avoid impacts from other activities. There may be localized cumulative impacts from grazing to spring resources based on the overall volumes extracted over time and recharge rates, and consequential loss of riparian vegetation and habitat associated with springs. However, as livestock grazing operations in the West Mojave planning area continue to decrease, both in numbers of animals and in the number of viable ranching operations that remain, impacts to spring resources from grazing will continue to decrease, and do not contribute to cumulative impacts to those resources.

Grazing Management

Temporary limits on grazing in areas not meeting rangeland health standards may have a short-term adverse affect to grazing operations at a local level, but would not affect the majority of the land base within grazing allotments. There are no identified long-term cumulative impacts to livestock grazing from the implementation of the proposed action. The current trend of reduced agriculture and ranching in the West Mojave is the result of economic and development pressures unrelated to the proposed action.

The no grazing alternative would have a small negative present and reasonable foreseeable future cumulative impact on the livestock industry in the Mojave Desert by cumulatively adding to the current trend of reduced ranching presence on a regional basis. This impact is relatively large on an individual basis, given the overall downward trends of local ranching as a segment of the economy and historic settlement of the region, and the relatively few remaining operations. However, it is not a significant trigger or accelerant of the decline of ranching industry, because it is unlikely any reasonable strategy can reverse the overall trend away from agriculture and ranching in the region.

CHAPTER 5: CONSULTATION AND COORDINATION

A. Participating Staff

Remijio Chavez	Rangeland Mgmt. Specialist
Charles Sullivan	Natural Resource Specialist
Jim Shearer	Archaeologist
Edy Seehafer	Environmental Coordinator

B. Consultation

Affected grazing lessees and interested publics.